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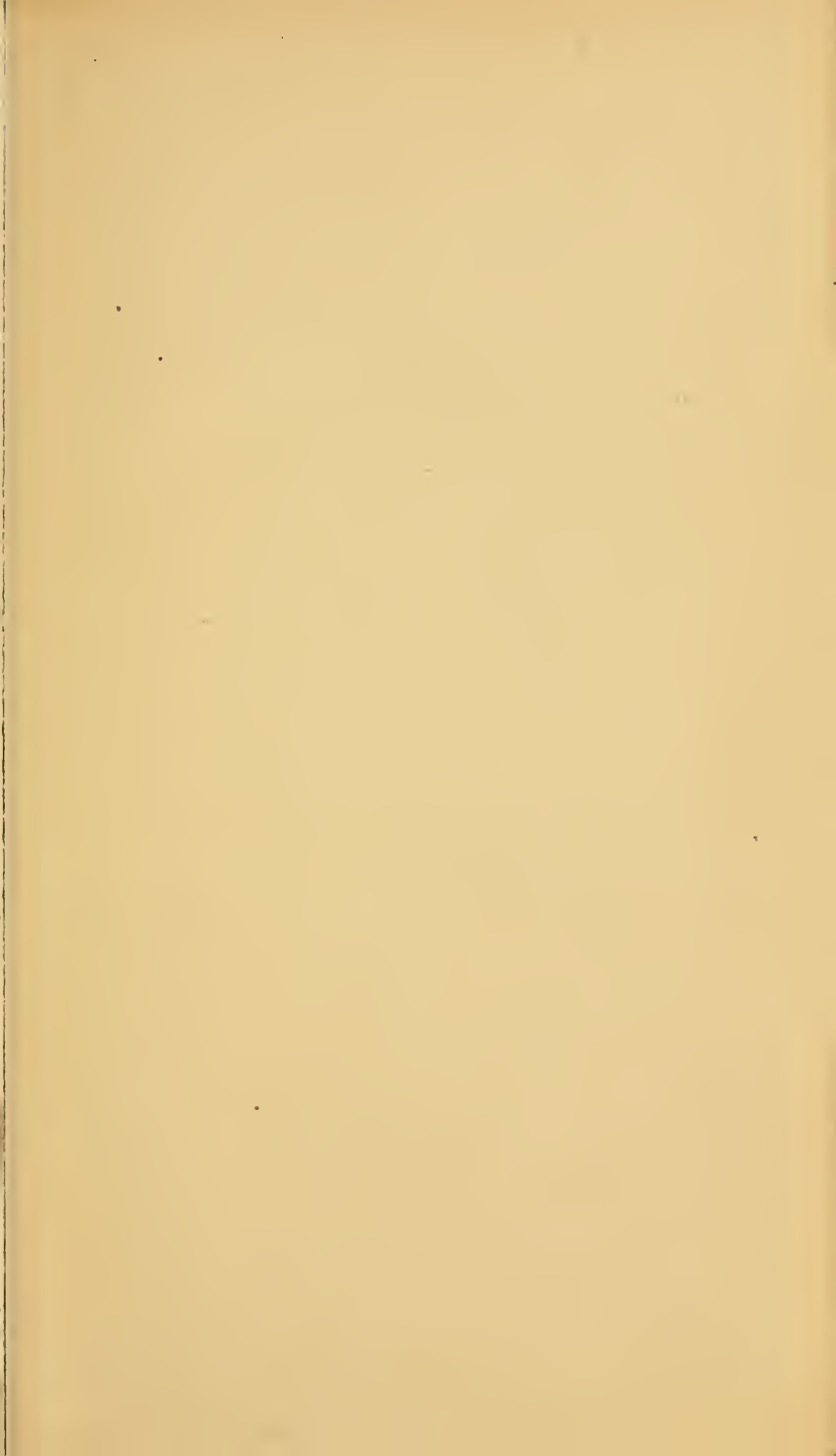




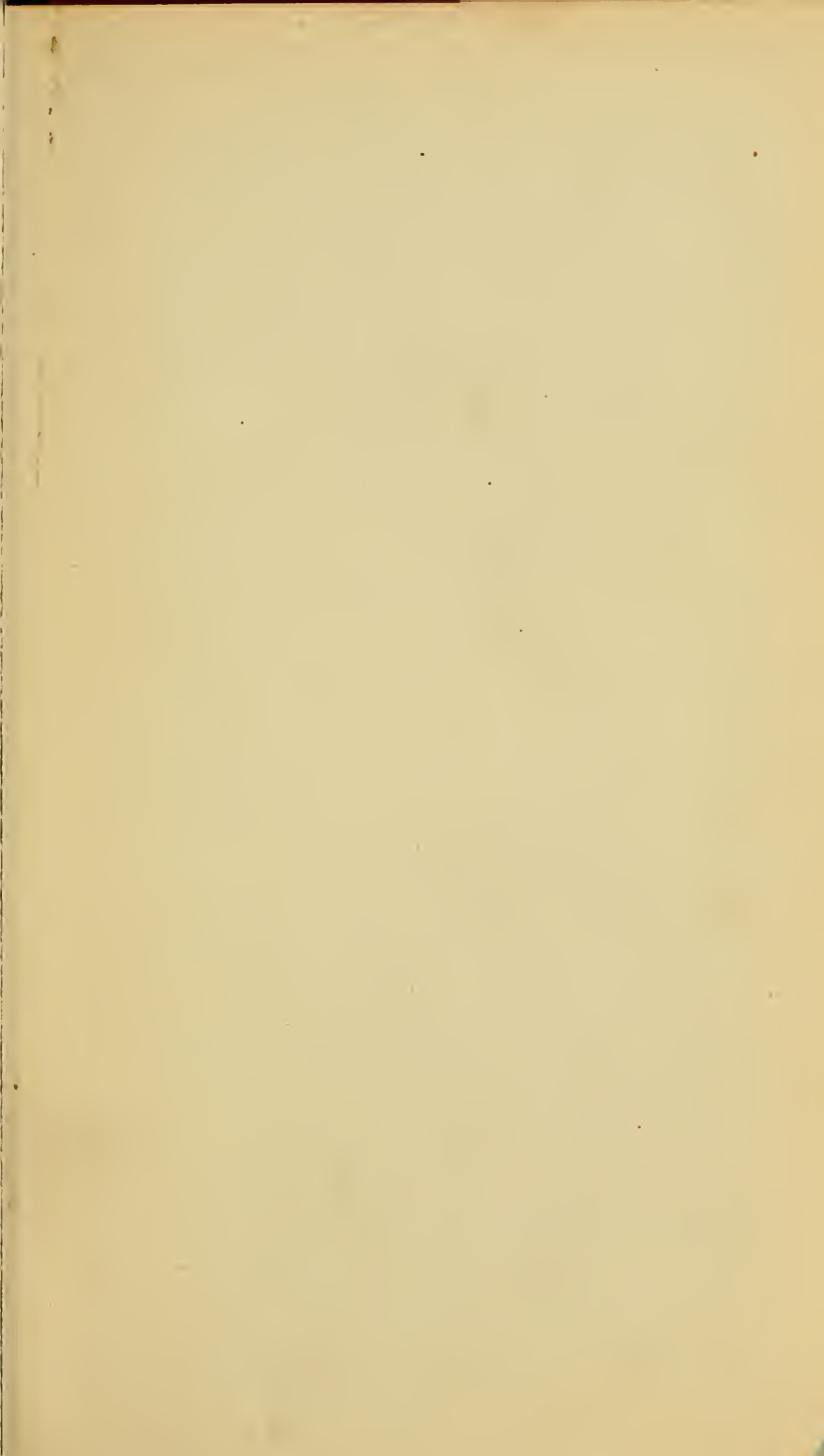














A

# CATALOGUE

OF THE

*Officers and Students*

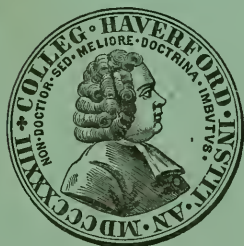
OF

## HAVERFORD COLLEGE,

FOR THE

ACADEMICAL YEAR

1876-77.



PHILADELPHIA:

COLLINS, PRINTER, 705 JAYNE STREET.

1877.

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# CATALOGUE

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## HVERFORD COLLEGE,

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PHILADELPHIA:

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# Corporation.

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*Secretary.*

EDWARD BETTLE, JR.

*Treasurer.*

DAVID SCULL, JR.,  
125 Market Street, Philadelphia.

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JAMES WHITALL.

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## EXECUTIVE COMMITTEE.

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## Faculty and Officers of Instruction.

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THOMAS CHASE, A.M.,

PRESIDENT,

AND PROFESSOR OF PHILOLOGY AND LITERATURE.

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SUPERINTENDENT,

AND PROFESSOR OF PHYSICS AND ASTRONOMY.

JOHN H. DILLINGHAM, A.M.,

PROFESSOR OF MORAL AND POLITICAL SCIENCE.

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PROFESSOR OF PHILOSOPHY AND LOGIC.

ISAAC SHARPLESS, S.B.,

PROFESSOR OF MATHEMATICS AND CHEMISTRY

THOMAS E. TAYLOR, A.B.,

ASSISTANT SUPERINTENDENT,

AND ASSISTANT PROFESSOR.

EDWARD D. COPE, A.M.,

LECTURER ON ZOOLOGY.

# Undergraduates.

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## SENIOR CLASS.

NAMES.

RESIDENCE.

### CLASSICAL SECTION.

Anderson, Isaac W.	Bryn Mawr,	Pa.
Baily, Frederic Lang	Philadelphia,	Pa.
Forsythe, Isaac	Media,	Pa.
Krider, James Delaplaine	Chester,	Pa.
Mercer, George Gluyas	Philadelphia,	Pa.
Townsend, Wilson	Rahway,	N. J.

### SCIENTIFIC SECTION.

Smith, William Foulke	Pennsville,	Ohio.
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## JUNIOR CLASS.

## CLASSICAL SECTION.

Baily, Henry	Newport,	Pa.
Baily, Albert Lang	Philadelphia,	Pa.
Carey, Francis King	Baltimore,	Md.
Comfort, Edward Thomas	Germantown,	Pa.
Crosman, Charles Sumner	Lynn,	Mass.
Hill, Samuel H.	Minneapolis,	Minn.
Reynolds, Lindley M. H.	Bush Hill,	N. C.
Smiley, Daniel, Jr.	Vassalboro,	Me.
Taylor, Henry Longstreet	Cincinnati,	Ohio.
Thomas, J. M. Whitall	Baltimore,	Md.
White, George Wilson	Belvidere,	N. C.

## SCIENTIFIC SECTION.

Haines, Robert B., Jr.	Cheltenham,	Pa.
Stokes, Henry Newlin	Moorestown,	N. J.

## SOPHOMORE CLASS.

NAMES.	RESIDENCE.	
Beezley, James	Earlham,	Iowa.
Bispham, Samuel, Jr.	Philadelphia,	Pa.
Gibbons, Edward	Wilmington,	Del.
Gifford, John Henry	West Falmouth,	Mass.
Henderson, Francis	Germantown,	Pa.
Lowry, William C.	Philadelphia,	Pa.
Newkirk, John Bacon	Greenwich,	N. J.
Sheppard, John E.	Greenwich,	N. J.

## FRESHMAN CLASS.

## CLASSICAL SECTION.

Bachman, Frank Eshleman	Strasburg,	Pa.
Cope, Francis Hazen	Germantown,	Pa.
Cox, Charles Elwood	Lawrence,	Kan.
Edwards, Josiah Pennington,	Spiceland,	Ind.
Lynch, James Lewis	Longwood,	Mo.
Mason, Samuel, Jr.	Germantown,	Pa.
Schively, Edwin Ford	Germantown,	Pa.
Whitall, John M., Jr.	Germantown,	Pa.
White, Thomas Newby	Belvidere,	N. C.

## SCIENTIFIC SECTION.

Bines, David Adams	Philadelphia,	Pa.
Corbit, Alexander P.	Odessa,	Del.
Hill, Mahlon Patterson	Mt. Pleasant,	Ohio.
Phillips, John L.	Pittsburg,	Pa.
Roberts, J. R. Evans	Philadelphia,	Pa.

## SUMMARY.

Seniors . . . . .	7
Juniors . . . . .	13
Sophomores . . . . .	8
Freshmen . . . . .	14
Total . . . . .	<hr/> 42

## Calendar.

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College Year, 1876-77, began with the beginning of the Autumn Term, 1876 . . . . .	9th Mo. 6.
Winter Recess began . . . . .	12th Mo. 20.
Winter Term begins,* 1877 . . . . .	1st Mo. 3.
Second Half-year begins . . . . .	2d Mo. 28.
Oration before the Loganian Society . . . . .	4th Mo. 10.
Junior Exercises . . . . .	4th Mo. 11.
Spring Recess begins . . . . .	4th Mo. 11.
Spring Term begins* . . . . .	4th Mo. 25.
Public Meeting of the Loganian Society . . . . .	6th Mo. 25.
Address before the Alumni . . . . .	6th Mo. 26.
Address to the Graduating Class . . . . .	6th Mo. 26.
Commencement Day . . . . .	6th Mo. 27.
Examinations for Admission . . . . .	6th Mo. 27.

### VACATION OF TEN WEEKS.

Examinations for Admission . . . . .	9th Mo. 4.
College Year, 1877-78, begins* . . . . .	9th Mo. 5.
Winter Recess begins . . . . .	12th Mo. 20.

\* The first recitations are due promptly at *nine o'clock* at the beginning of each Term. No absences from them are excused, unless clearly unavoidable



## Requisites and Terms for Admission.

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CANDIDATES for admission to the Freshman Class in the Classical Course, will be examined as to their proficiency in the following requisites:—

*Classics.*—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in Latin and Greek Grammar, to be tested, in part, by writing easy sentences in Latin and Greek; acquaintance with Prosody, to be proved by scanning verses from Virgil; and ability to give, after an hour's study—with the aid of a Lexicon—a literal translation of a passage *not before read* by the candidate, both in Latin and Greek prose or verse, equal in amount to fifty hexameter lines, and to apply the proper rules of Syntax to the constructions in that passage.

Candidates are recommended to read the books of a preparatory course in Greek and Latin which are ordinarily prescribed in the requisitions for admission to American colleges; but this course may be varied at the discretion of teachers, provided the candidate is found to possess a sufficient knowledge of both languages to enable him to pursue, with facility and advantage, the studies of the Freshman year.

*Mathematics.*—Arithmetic, including the Metric System, Algebra, as far as Quadratic Equations, and some introductory knowledge in Geometry, gained from the first two books in Playfair's Euclid, or their equivalents.

*English.*—Spelling, Grammar, English Composition, Geography, and the History of the United States. (The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics.)

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Classical Course, except in the Greek language.

Satisfactory examination-papers written under proper supervision at first-class schools, and forwarded to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a Degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission shall be given only to students of sufficient age, ability, and diligence to ensure their success.

Candidates found fully prepared for admission to the Freshman Class, and also in all the regular studies of the Freshman year, may be admitted to the Sophomore Class.

A rule of the Corporation directs that "The College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismissal in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to the President, THOMAS CHASE, Haverford College P. O., Montgomery Co., Pa. Candidates will present themselves at the College, for examination by the Faculty, at 12 o'clock on Commence-

*ment-day, or at 9 o'clock on the morning previous to the beginning of the college term at which they desire to enter.*

The price of Board and Tuition is \$425.00 per annum, payable one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students, who dine at the College, the annual charge is \$250.00.

## Courses of Instruction.

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NOTE.—*The number of hours per week allotted to each subject may be somewhat modified, if it be found necessary, in order to do equal justice to the different studies pursued.*

### CLASSICAL COURSE.

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#### FRESHMAN CLASS.

1. *Scripture.* The Gospel according to John. 1 hour a week.
2. *Mathematics.* Euclid's Geometry.—Alsop's Algebra.—Loomis's Plane Trigonometry. 4 hours a week.
3. *Greek.* Selections from Greek Historians.—Homer.—Review of Greek Grammar.—Exercises in writing Greek. 3 hours a week.
4. *Latin.* Livy (Chase).—Horace (Chase).—Review of Latin Grammar.—Exercises in writing Latin. 4 hours a week.
5. *English Literature.* Cleveland's Compendium.—Hart's Rhetoric.—Compositions.
6. *History.* Smith's History of Greece.—Liddell's History of Rome. Subjects 5 and 6, 2 hours a week.
7. *Physical Geography.* Guyot's Earth and Man.
8. *Zoology.* Tenney's.
9. *Botany.* Wood or Gray. Subjects 7, 8, and 9, 2 hours a week.
10. *Drawing.* White's Art Studies. 1 hour a week.

## SOPHOMORE CLASS.

1. *Scripture.* English New Testament. 1 hour a week.
2. *Mathematics.* Loomis's Trigonometry and Surveying, with Field Practice —Loomis's Spherical Trigonometry. 3 hours a week the first half year, 2 hours the second.
3. *Greek.* The Iliad or Odyssey of Homer.—Plato's Apology and Crito.—The Prometheus of Æschylus.—Exercises in writing Greek. 3 hours a week.
4. *Latin.* Horace (Chase).—The Germania and Agricola of Tacitus.—Exercises in writing Latin. 3 hours a week.
5. *Ethics and Christian Evidences.* Dymond's Essays on Morality.—Paley's Evidences of Christianity.
6. *Political Economy.* Wayland and Thompson.
7. *History.* Freeman's Outlines, or an equivalent. Subjects 5, 6, and 7, 3 hours a week.
8. *Physics.* Loomis's Natural Philosophy.—Lectures. 3 hours a week the first half year.
9. *Chemistry.* Eliot and Storer's Chemistry.—Lectures. 3 hours a week the second half year.
10. *Geology.* Dana's Text-book. 1 hour a week the second half year.
11. *Drawing.* White's Art Studies. 1 hour a week.

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JUNIOR CLASS.

## REQUIRED STUDIES.

1. *Scripture.* Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). 1 hour a week.
2. *Mathematics.* Analytical Geometry. 3 hours a week the first half year.

3. *Astronomy*. Descriptive Astronomy (Herschel and Loomis). 3 hours a week the second half year.
4. *Greek*. Thucydides.—The Antigone of Sophocles.—Exercises in writing Greek. 2 hours a week.
5. *Latin*. Chase's Selections from Juvenal.—Cicero's Tusculan Disputations and Somnium Scipionis (Chase).—Exercises in writing Latin. 2 hours a week.
6. *French*. Knapp's Grammar.—Fénelon's *Télémaque*.—*Histoire de Charles XII*.—Exercises. 2 hours a week.
7. *Rhetoric*. Whately's Rhetoric.
8. *Logic*. Whately and Hamilton.
9. *Psychology*. Haven's Mental Philosophy (begun).
10. *Political Science*. Kent's Commentaries on American Law.—Constitution of the United States.—Forensics. Subjects 7, 8, 9, and 10, 3 hours a week.
11. *Geology*. Dana's Text-book (finished).
12. *Elocution*. Rehearsals for Public Exhibition.

## ELECTIVE STUDIES.

(Two hours a week to be selected.)

1. *Descriptive Geometry and Drawing*. 2 hours a week.
2. *Political Science*. Kent's Commentaries on the Law of Nations, and Municipal Law.
3. *Anglo-Saxon*. Subjects 2 and 3, together, 2 hours a week the first half year.
4. *Chemistry*. Qualitative Analysis.—Laboratory Practice. 2 hours a week the first half year.
5. *Mathematics*. Loomis's Differential and Integral Calculus. 2 hours a week the second half year.
6. *German*. Whitney's Grammar, Exercises, and Reader. 3 hours a week the second half year, counting as 2 hours.

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *Scripture.* Greek Testament continued. *1 hour a week.*
2. *Latin; and Classical Literature.* The Captivi of Plautus.—Cicero's Letters.—Pliny's Letters.—The Ancient Pronunciation of Latin.—Latin Compositions.—History of the Literatures of Greece and Rome. *Two hours a week.*
3. *German.* Whitney's Grammar, Reader, and Exercises. (Required, in lieu of one of the elective studies, of those members only of the Senior Class who have not previously studied German.) *3 hours a week the second half year, counting as two hours.*
4. *Psychology.* Haven continued.—Porter's Human Intellect.—Lectures.
5. *Philology.* Whitney's Science of Language. Subjects 4 and 5, *3 hours a week the first half year.*
6. *Natural and Revealed Religion.* Butler's Analogy.
7. *Christian Doctrines.* Barclay and Gurney.
8. *English.* March's Philological Study, or an equivalent.—Themes. Subjects 6, 7, and 8, *2 hours a week.*
9. *History.* Hallam's Constitutional History of England.—Guizot's History of Modern Civilization.—Arnold's Lectures on Modern History. *2 hours a week.*
10. *Anatomy, Physiology, and Hygiene.* *3 hours a week the second half year.*

## ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Mechanics.* Peck's Mechanics. *2 hours a week the first half year.*
2. *Physics.* Acoustics.—Optics.—Heat and its Applications.—Electricity. *2 hours a week.*
3. *Astronomy, etc.* Loomis's Practical Astronomy, with

- Practice in the Observatory.—Meteorology. *2 hours a week the second half year.*
4. *Classical Philology and Greek.* Demosthenes on the Crown.—Greek Lyric Poets.—Greek Composition.—Papillon's Greek and Latin Inflections.—Peile's Greek and Latin Etymology, with Curtius, Vanček, and Corssen for reference.—Curtius's and Roby's Grammars.—Inscriptions. *2 hours a week.*
  5. *Psychology.* Jouffroy.—Berkeley.—Porter (continued). *2 hours a week.*
  6. *French.* Duruy's Histoire Grecque.—Duruy's Histoire Romaine.—Racine.—Sauveur's Entretiens sur la Grammaire.—Exercises. *3 hours a week, counting as two hours.*
  7. *Advanced German.* Der Neffe als Onkel.—Schiller's Wilhelm Tell.—Review of the Grammar.—Exercises. *3 hours a week, counting as two hours.*
  8. *History.* Modern European History.—American History. *3 hours a week, counting as two hours.*
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## SCIENTIFIC COURSE.

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### FRESHMAN CLASS.

1. *Scripture.* The Gospel according to John. *1 hour a week.*
2. *Mathematics.* Euclid's Geometry — Alsop's Algebra.—Loomis's Plane Trigonometry. *4 hours a week.*
3. *Latin.* Livy (Chase).—Horace (Chase).—Review of Latin Grammar.—Exercises in writing Latin. *4 hours a week.*
4. *English Literature.* Cleveland's Compendium — Hart's Rhetoric.—Compositions.



5. *History.* Greek and Roman History. Subjects 4 and 5, 2 hours a week.
6. *Physics.* Loomis's Natural Philosophy —Lectures. 3 hours a week the first half year.
7. *Chemistry.* Eliot and Storer.—Lectures. 3 hours a week the second half year.
8. *Physical Geography.* Guyot's Earth and Man.
9. *Zoology.* Tenney's.
10. *Botany.* Wood or Gray. Subjects 8, 9, and 10, 2 hours a week.
11. *Drawing.* White's Art Studies. 2 hours a week.

## SOPHOMORE CLASS.

1. *Scripture.* The New Testament. 1 hour a week.
2. *Mathematics.* Loomis's Trigonometry and Surveying, with Field Practice.—Loomis's Spherical Trigonometry. 3 hours a week the first half year, 2 hours the second.
3. *Descriptive Astronomy.* Herschel and Loomis. 3 hours a week the second half year.
4. *French.* Knapp's Grammar.—Fénelon's *Télémaque*.—*Histoire de Charles XII*—Exercises. 2 hours a week.
5. *Ethics and Christian Evidences.* Dymond's Essays on Morality.—Paley's Evidences of Christianity.
6. *Political Economy.* Wayland and Thompson.
7. *History.* Freeman's Outlines, or an equivalent. Subjects 5, 6, and 7, 3 hours a week.
8. *Chemistry.* Cooke's Chemical Philosophy.—Qualitative Analysis.—Laboratory Practice. 5 hours a week.
9. *Geology.* Dana's Text-book. 1 hour a week the second half year.

10. *Natural History, etc.* Botany (continued).—Zoology.  
—Comparative Anatomy.—Comparative Physiology.  
—Hygiene. 3 hours a week, the first half year.
11. *Drawing.* White's Art Studies.—Mechanical Drawing.  
2 hours a week.

## JUNIOR CLASS.

## REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible; or the Greek Testament (for students having a sufficient knowledge of Greek). 1 hour a week.
2. *Mathematics.* Analytical Geometry.—Differential and Integral Calculus. 3 hours a week the first half year, 2 hours a week the second.
3. *Descriptive Geometry and Drawing.* 2 hours a week.
4. *French.* Duruy's *Histoire Grecque.* Duruy's *Histoire Romaine.* Racine. —Sauveur's *Entretiens sur la Grammaire.*—Exercises. 3 hours a week.
5. *German.* Whitney's Grammar, Exercises, and Reader. 3 hours a week the second half year.
6. *Rhetoric.* Whately's Rhetoric.
7. *Logic.* Whately and Hamilton.
8. *Psychology.* Haven's Mental Philosophy (begun).
9. *Political Science.* Kent's Commentaries on American Law.—Constitution of the United States.—Forensics. Subjects 6, 7, 8, and 9, 3 hours a week.
10. *Physics.* Acoustics.—Optics.—Heat and its Applications.—Electricity. 2 hours a week.
11. *Practical Engineering.* Field Work.—Sketches of Structures and Machines. 1 hour a week.
12. *Elocution.* Rehearsals for Public Exhibition.

## ELECTIVE STUDIES.

*(One study to be selected.)*

1. *Advanced Geology, and Mineralogy.* Lyell.—Dana.  
*2 hours a week the first half year.*
2. *Elementary Greek.* Grammar and Reader.—Scientific  
Nomenclature. *2 hours a week the first half year.*

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible, or Greek  
Testament. *1 hour a week.*
2. *Mathematics.* Analytical Mechanics. *2 hours a week.*
3. *Astronomy, etc.* Loomis's Practical Astronomy, with  
practice in the Observatory.—Meteorology. *2 hours  
a week the second half year.*
4. *German.* Der Neffe als Onkel.—Schiller's Wilhelm  
Tell.—Review of the Grammar.—Exercises. *3 hours  
a week.*
5. *Psychology.* Haven (continued).—Porter's Human In-  
tellect.—Lectures.
6. *Philology.* Whitney's Science of Language. Subjects  
5 and 6, *3 hours a week the first half year.*
7. *Natural and Revealed Religion.* Butler's Analogy.
8. *Christian Doctrines.* Barclay and Gurney.
9. *English.* March's Philological Study.—Themes. Sub-  
jects 7, 8, and 9, *2 hours a week.*
10. *History.* Guizot's History of Modern Civilization.—  
Arnold's Lectures on Modern History. *1 hour a  
week the second half year.*
11. *Elocution.* A Public Oration at Commencement.

## ELECTIVE STUDIES.

*(Three studies to be selected.)*

1. *Mathematics.* Determinants.—Theory of Equations.—Quaternions. 2 hours a week.
2. *Experimental Physics.* 2 hours a week.
3. *Applied Mechanics and Constructive Engineering.* 2 hours a week.
4. *Political Science.* Kent's Commentaries on the Law of Nations and Municipal Law.
5. *Anglo-Saxon.* Subjects 4 and 5 (counting as one study), 2 hours a week the first half year.\*
6. *Psychology.* Jonffroy.—Berkeley.—Porter (continued).—Lectures. 2 hours a week.
7. *Greek.* Homer.—History of Greek Literature. 2 hours a week.
8. *History.* Modern European History.—American History. 3 hours a week, counting as two hours.
9. *English Constitutional History.* Hallam. 2 hours a week the first half year.\*

\* Students choosing subjects 4 and 5, or 9, can join the class in Elective History (8) for the second half year, or take any other of the elective courses in which the work of the first half year is not indispensable for the understanding of the lessons.

## Lectures.

THE Courses of Lectures for the year 1876-77, are as follows:—

### TO THE WHOLE COLLEGE.

<i>Harmonies of Art, Science, and Religion</i> . . . . .	} PROFESSOR P. E. CHASE.
<i>Hildebrand: Bernard: Loyola</i>	PROFESSOR SHARPLESS.
<i>English Poets</i> . . . . .	PRESIDENT CHASE.
<i>History</i> . . . . .	PROF. JOSEPH THOMAS.
<i>Zoology</i> . . . . .	PROFESSOR COPE.
<i>International Law and Christianity</i> . . . . .	} PROF. DILLINGHAM.

### TO THE SENIOR CLASS.

<i>Philosophical Principles</i> . .	PROFESSOR P. E. CHASE.
<i>Physics</i> . . . . .	PROFESSOR ALSOP.

### TO THE JUNIOR CLASS.

<i>Inductive and Deductive Logic</i>	PROFESSOR P. E. CHASE.
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### TO THE SOPHOMORE CLASS.

<i>Nat. Philosophy and Chemistry</i>	PROFESSOR ALSOP.
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## Examinations.

IN determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are private examinations of each class, in writing, in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts or that of Bachelor of Science. The examinations are conducted upon the following plan:—

The members of the class under examination are seated in a room by themselves, under the supervision of an officer, and a set of questions is furnished them upon some book or subject in the course, which each student is required to answer in writing, without consulting any person or book. The time of writing, for the examination in each book, is limited to three hours. The questions

are upon topics and passages selected throughout the text-books, or upon matters which have been clearly illustrated in the teacher's instructions, and are calculated to test as accurately as possible the student's knowledge of the whole subject. Neatness of penmanship, *orthography*, grammar, and style of expression receive due weight in the estimation of the value of the answers.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. *But no student is entitled to such advancement, whatever his numbers or rank, unless, in the private judgment of all his instructors and caretakers, he has been faithful in his daily studies, and satisfactory in his character and conduct.*

The *viva voce* examinations are made in the daily recitations. Each recitation during the course is marked on a scale in which ten indicates the highest excellence. From the aggregate of marks received for recitations, themes, etc., deductions are made for irregularities and misdemeanors; and the sum of credit marks remaining, reduced to an average on the scale of ten, is combined with the average obtained in the written examinations, to determine a student's rank.

*Special* written examinations are occasionally held, as means of mental training.

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## Degree of Master.

BACHELORS OF ARTS of three years' standing may take the degree of Master of Arts, and BACHELORS OF SCIENCE of three years' standing may take the degree of Master of Science, on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an Examination on some literary or scientific Course of Study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the Examination must exhibit sufficient research, thought, and ability, to attest substantial desert on the part of the applicant.

The following are stated as adequate Courses of Study to be presented by candidates for the Degree:—

I. The Pauline Epistles in Greek (with Winer's or Buttmann's N. T. Grammar, Grimm's Lexicon, and Scrivener's Introduction).

II. The whole of Thucydides.

III. Seven Tragedies of Æschylus, Sophocles, or Euripides.

IV. Cicero's Tusculan Disputations (five books), De Natura Deorum, and De Officiis.

V. The whole of Tacitus.

VI. Schiller's History of the Thirty Years' War, and Wallenstein (all the parts), in the original German.

VII. The Nicomachean Ethics of Aristotle (in the original), and Jouffroy's Introduction to Ethics.

VIII. Thermodynamics.

IX. Theoretical Astronomy (Watson and Gauss).

Notice of application for examination must be given two months before Commencement. The examinations will be held the first week in the Sixth month. The fee for the diploma is Twenty Dollars, to be paid before Commencement-day.

In lieu of examinations, Theses (if sufficiently elaborate and well-studied) may be received until 1879.

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## Alumni Prize

### for Composition and Oratory.

THE Association of the Alumni, in the year 1875, instituted an ANNUAL PRIZE of a Gold Medal, of the value of eighty-five dollars, for excellence in Composition and Oratory. The competition is confined to members of the Senior and Junior Classes, and is made before five judges, appointed by a committee of the Alumni. The successful competitor will deliver his oration publicly on the evening of Alumni Day, the President of the Association handing him the Prize.

The prize was awarded last year to RICHARD HENRY HOLME, of the class of 1876, for his oration on "Christianity as a Factor in Civilization."



## Library.

LIBRARIAN, Prof. SAMUEL ALSOP, Jr.; COMMITTEE in charge of the Library, Richard Wood, *Chairman*; Benjamin V. Marsh, Philip C. Garrett, Charles Roberts, Edward Bettle, Jr., Edward L. Scull.

THE number of bound volumes in the Library Hall, accessible to the members of the College, is 10,700. Of these, the LIBRARY OF HAVERFORD COLLEGE contains 7150 volumes; that of the LOGANIAN SOCIETY 2250; those of other societies 1300. Numerous American and European periodicals, scientific and literary, are taken by the Library.

By contributions of friends of the College, a fund of ten thousand dollars has been established, the income of which is devoted to the increase of the Library.

The College possesses—a gift from Friends in England—a copy of the imperial edition of the CODEX SINAITICUS, published by the Emperor of Russia, and Woidé's edition of the CODEX ALEXANDRINUS. To these have been added, by donation and purchase, the Roman edition of the CODEX VATICANUS, and Tischendorf's edition of the same CODEX. The Library thus contains copies, nearly in facsimile, of the most ancient known manuscript-authorities for the genuine text of the New Testament.

Fine copies of Walton's Polyglot and Castell's Lexicon were presented in 1876 by J. Bevan Braithwaite.

An excellent cast of the ROSETTA STONE, with its tri-lingual inscription, is among our palæographic treasures.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves are freely consulted.

A CARD CATALOGUE of the College and the Society Libraries has been made in the last year, and is of great service in showing at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.



## Collections in Natural History, and Apparatus.

The large MINERALOGICAL COLLECTION of the late Dr. Troost, contains about 2700 specimens. The GEOLOGICAL CABINET comprises about 2500 specimens, and contains complete suits illustrating the Geology of New York and South Carolina, prepared for the College by the late Lardner Vanuxem. Arrangements will soon be made for the display of these collections in the MUSEUM OF NATURAL HISTORY, in such a manner as to facilitate the study of them.

A valuable set of elastic models made by Anzoux, of Paris, admirably exhibiting, by dissection, the actual appearance and anatomy of the minute, as well as the larger, organs of the entire human body, and of other interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY; also, a collection of plaster models of FOSSIL SPECIES in Natural History, made by Professor Ward, of Rochester, have been presented to the College by Richard Wood

Extensive APPARATUS is provided for the illustration of Natural Philosophy and Chemistry.

In the rear of the Apparatus Rooms is a well-furnished LABORATORY.

## Astronomical Observatory.

THE HAVERFORD OBSERVATORY affords the students in the higher classes the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains an Equatorial Telescope, mounted in the Fraunhofer style, with an object-glass of  $8\frac{1}{4}$  inches aperture, and a focal length of 11 feet, and furnished with an annular micrometer, with six eyepieces, varying in magnifying power from 60 to 900 times; a Meridian Transit Circle, of the German form, having a Telescope of 4

inches aperture, and 5 feet focus, with a circle at each end of the axis 26 inches in diameter—one reading by four verniers to two seconds of arc, the other used simply as a finder; a Prime Vertical Transit; a Solar Clock; a Sidereal Clock, with the mercurial compensation; and Bond's Magnetic Chronograph, for the instantaneous recording of observations.

The latitude of the Observatory is  $40^{\circ} 0' 36''.5$  N.; its longitude,  $5^h 1^m 12^{sec}.75$  W. from Greenwich.

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## Societies.

THE LOGANIAN SOCIETY was established by the Officers and Students in 1834. The exercises in its weekly meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN," monthly. It has in its possession a carefully selected Library of 2250 volumes, and cabinets of conchology, geology, natural history, medals, and coins. A large GYMNASIUM, also, is under its direction, and a CARPENTER'S SHOP belongs to the Society.

THE ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 1300 volumes.

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## Situation of the College.

THE College has a remarkably pleasant and healthful location, in the township of Haverford, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., Montgomery County, Pa. The buildings are situated on a lawn of upwards of sixty acres, tastefully laid out, and adorned with a great variety of trees and shrubbery. The grounds of the College comprise excellent fields for cricket and base-ball.

The old College Hall was built in the years 1832-33; the

Astronomical Observatory in 1852; the Chemical Laboratory and Gymnasium in 1853; the Alumni Hall and Library in 1863-64; and Barclay Hall in 1876-77. BARCLAY HALL is a beautiful edifice of granite, 220 by 40 feet, containing private studies and dormitories for about eighty students. It is furnished with the best modern conveniences, and with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining-room, recitation-rooms, and Museum are in the Old College.

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## Instruction and Discipline.

THE Courses of Instruction at Haverford, aiming at thorough and generous training, retain the standard studies proved by long experience to be most fruitful in mental culture, but give them no undue preponderance, and add to them those scientific and practical studies which have risen into prominence in recent times. Both courses are designed to give a broad, as well as thorough culture, so that the Baccalaureate degrees, whether in Arts or Science, may attest a comprehensive and truly liberal education.

As the students form one household, their Religious Instruction is carefully provided for. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, Barclay's Apology, and Gurney's Observations, form part of the regular course of study.

In the Discipline of the College, the Officers endeavor to promote habits of order and regularity. Such restraints only are imposed as are deemed necessary to attain this

end, or to secure the students from those temptations which are incident to their situation, removed as they are from the protection and preserving influences of home. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and, above all, to their conscientious feeling and Christian principle, are the means most relied upon.

## DEGREES GRANTED IN 1876.

At the Commencement in 1876, Degrees were granted, in course, to the following graduates :—

### BACHELORS OF ARTS.

FRANCIS G. ALLINSON,	THOMAS WM. KIMBER,
DAVID S. BISPHAM,	CHARLES A. LONGSTRETH,
REUBEN COLTON,	JOHN W. NICHOLSON,
HENRY W. DUDLEY,	PERCIVAL ROBERTS, Jr ,
SETH K. GIFFORD,	FRANK H. TAYLOR,
LEWIS L. HOBBS,	LEWIS A. TAYLOR,
RICHARD H. HOLME,	HOWARD G. TAYLOR.

### MASTERS OF ARTS.

BENJAMIN H. LOWRY (Class of 1873).  
ALDEN SAMPSON, Jr. (Class of 1873).

Honorary Degrees were granted as follows :—

### MASTER OF ARTS.

WILLIAM H. PANCOAST, M.D. (Class of 1853).

### DOCTOR OF LAWS.

PLINY E. CHASE, A.M. (Harv.).

# HAVERFORD EXAMINATION PAPERS.

## XENOPHON'S ANABASIS.

1. Translate IV. iii., § 10 and § 11.
2. Where are ἰδοῦσι, διαβῆναι, ἔφασαν, and λαβόντες made (§ 12)? Give their principal parts. Where is ᾗδεσαν made?
3. Explain the agreement of προσέτρεχον with its subject νεανίσκῳ. What is the subject of ἐξείη, and why the optative? Explain the mood of τνγχάνοιεν. What kind of narration is employed in quoting the young men's statement, and what change of grammatical form does the narration undergo in § 12? To what class would the conditional clauses of lines 3d and 4th belong, if they were in the *oratio recta*?
4. Translate IV. vi., §§ 4 and 5.
5. Explain the cases of σταθμούς, ἡμέρας, αὐτοῖς, πολεμίους. What character does εἰς τὸ πεδίον derive from its position between the article and its substantive?
6. How much is a parasang? a plethrum? a stade? Where is the Phasis? Describe the river along which the Retreat had mostly been conducted.
7. Translate IV. vii., §§ 23, 24, and 25.
8. What sea did they behold? Decline πλείων. What dative is πολλῷ? What does Xenophon say he has described in the books preceding this? (vid. i. 1.) What is the date of the Anabasis? Is the title *Anabasis* applicable to Book IV.? Where is the army at the beginning of Book IV., and where at the end?

## THE ILIAD OF HOMER.

1. Translate *Il. i.* 68-80:—

Ἦτοι ὅγ' ὡς εἰπὼν κατ' ἄρ' ἔξετο. τοῖσι δ' ἀνέστη  
 Κάλχας Θεστορίδης, οἰωνοπόλων ὄχ' ἄριστος·  
 ὅς ῥ' ἔδη τά τ' ἐόντα, τά τ' ἐσσόμενα, πρό τ' ἐόντα,  
 καὶ νήεσσ' ἡγήσατ' Ἀχαιῶν Ἴλιον εἴσω,  
 ᾗν διὰ μαντοσύνην, τήν οἱ πόρε Φοῖβος Ἀπόλλων·  
 ὁ σφιν εὐφρονέων ἀγορήσατο καὶ μετέειπεν·

70

Ω Ἀχιλεῦ, κέλεαί με, Διὶ φίλε, μνηστῆρασθαι  
 μῆνιν Ἀπόλλωνος ἐκατηβέλεταο ἀνακτος.  
 τοιγὰρ ἐγὼν ἐρέω· σὺ δὲ σύνθεο, καί μοι ὁμοοσον,  
 ᾗ μὲν μοι πρόφρων ἔπεισιν καὶ χερσὶν ἀρχῆσιν.  
 ᾗ γὰρ οἶομαι ἀνδρα χολωσέμεν, ὅς μέγα πάντων  
 Ἀργείων κρατέει, καὶ οἱ πεύθονται Ἀχαιοί.  
 κρείσσων γὰρ Βασιλεύς, ὅτε χῶσεται ἀνδρὶ χέρη·

75

80

2. Divide the first five lines of this passage into feet, and mark the place of the principal *cæsura* in each. Name the metre of the *Iliad*. Why is it so named? Define *cæsura of the foot* and *cæsura of the verse*.

3. State fully where the following forms are found, and from what presents: ἀνέστη, ῥ' ἔδη, σύνθεο, ὁμοοσον. Give the principal parts of any two of these verbs.

4. Give the Attic forms of ἐόντα, κέλεαι, ἐκατηβέλεταο, σύνθεο, and χολωσέμεν.

5. What is the subject of χολωσέμεν (78)? and give the rule. Rules of syntax for τοῖσι (68), σφιν (73), μοι (77), ἔπεισιν (77), μέγα (78), Ἀργείων (79). What use of the article is frequent in Homer (cf. 72)? Parse οἱ (72), and explain the accent of τήν.

6. Translate *Il. ii.* 211-220:—

Ἄλλοι μὲν ῥ' ἐζόντο, ἐρήτυθεν δὲ καθ' ἑδρας.  
 Θερσίτης δ' ἔτι μούνος ἀμετροεπὴς ἐκολῶα,  
 ὅς ῥ' ἔπεα φρεσὶν ᾗσιν ἀκοσμά τε πολλὰ τε ῥ' ἔδη.  
 μάψ, ἀτὰρ οὐ κατὰ κόσμον, ἐριζέμεναι βασιλευσιν,  
 ἀλλ' ὅ, τι οἱ εἴταιτο γελοῖον Ἀργείοισιν  
 ἔμμεναι. αἰσχιστος δὲ ἀνὴρ ὑπὸ Ἴλιον ἦλθεν·  
 πολὺς ἔην, χολὸς δ' ἔτερον πόδα· τῷ δὲ οἱ ὦμα  
 κυρτῷ, ἐπὶ στῆθος σφυροχωρότε· αὐτὰρ ὑπερθεῖν  
 προῖος ἔην κερφαλὴν, ἄδινῇ δ' ἐπενήροε λάχνη.  
 ἐχθιστος δ' Ἀχιλλεὺς μάλιστα ᾗν ῥ' Ὀδυσσεύς·

215

220

7. Force of the tense in ἐκολῶα. Explain the mood of εἴσαιτο. Attic forms of ἐρήτυθεν, ῥῆσιν, ἔμμεναι. Composition of ἀμετροπής. Comment on the form συνοχωκότε. Rules of syntax for πόδα and οἶ (217).

8. Translate *Il.* vi. 466–475 :—

ὦς εἰπὼν οὗ παιδὸς ὀρέξατο φαίδιμος Ἴκτωρ.  
 ἂψ δ' ὁ πάϊς πρὸς κόλπον ἐνζώνοιο τιθήνης  
 ἐκλίνθη ἰάχων, πατὴρ φίλου ὤψιν ἀνυχθείς,  
 ταρβήσας χαλκὸν τ' ἠδὲ λόφον ἱπποχαίτην,  
 δευρὸν ἀπ' ἀκροτάτης κόρυθος νένοντα νοήσας· 470  
 ἐκ δ' ἐγέλασσε πατὴρ τε φίλος καὶ πότνια μήτηρ.  
 αὐτίκ' ἀπὸ κρατὸς κόρυθ' εἴλετο φαίδιμος Ἴκτωρ,  
 καὶ τὴν μὲν κατέθηκεν ἐπὶ χθοὶ παμφανόωσαν·  
 αὐτὰρ ὄγ' ὃν φίλον υἱὸν ἐπεὶ κύσε, πῆλὲ τε χερσίν,  
 εἶπεν ἐπευξάμενος Διὶ τ' ἄλλοισιν τε θεοῖσιν· 475

9. Syntax of παιδός. Attic form of ἐνζώνοιο.

10. Τὸν δ' ἡμείβετ' ἔπειτα γέρων Πρίαμος θεοειδής·  
 μὴ μέ πω ἐς θρόνον ἵξε, Διοτρεφές, ὄφρα κεν Ἴκτωρ  
 κείται ἐνὶ κλισίῃσιν ἀκηδής· ἀλλὰ τάχιστα  
 λῖσον, ἵν' ὀφθαλμοῖσιν ἰδῶ· σὺ δὲ δέξαι ἄποινα 555  
 πολλὰ, τὰ τοι φέρομεν· σὺ δὲ τῶνδ' ἀπόναιο, καὶ ἔλθοις  
 σὴν ἐς πατρίδα γαίαν, ἐπεὶ με πρῶτον ἔασας.—*Il.* xxiv. 552–557.

Rules for the moods of ἴδω and ἔλθοις.

11. Derivation of the preposition μετά. Translate the epithets εὐνῆμίδες, πολύφλοισβος, εὐρυκρείων, Διοτρεφής.

12. State briefly the different opinions held on the authorship of the Homeric poems. How can the Wrath of Achilles be called the subject of the whole of the *Iliad*?

State precisely the geographical situation of the cities or countries whence Achilles, Agamemnon, Menelaus, and Nestor, respectively, came to Troy.

Physical explanation of the arrows of Apollo (Book i.).

What words in the prelude of the *Iliad* indicate Homer's belief in a Divine providence?



## THE PROMETHEUS OF ÆSCHYLUS.

1. Translate lines 12-28.

2. Composition of *τηλουργόν* (1), *ἄβατον* (2), *ὀρθοβούλου* (18), *ἄκων* (19), *δυσλύντοις* (19). Where is *διδαχῆς* (10) made? Give the rule for the mood. Rules for the cases of *τρόπον* (11), *σφῶν* (12), *βίβη* (15). What part of speech is *του* (21), and how is it recognized?

3. Translate lines 640-654.

4. Where are these verbs made, and from what Presents Indicative: *πένσεσθε* (642), *τυχεῖν* (649), *ἀπολακτίσῃς* (651). Force of the tense in *παρχγόρον* (646). Rule for the mood and tense of *λωφῆσῃ* (654). Parse *ἔξον* (648), and give the rule of syntax. State the difference between the aorist subjunctive, in a negative command, and the present imperative.

5. Translate lines 937-943.

6. Force of the tense of *ἀγγελῶν* (943). Translate *γάρ* idiomatically in lines 745, 757, and 780.

The forms of what dialect occur often in the choruses, and why? Describe briefly the origin of the Athenian drama.

How does Æschylus depart from the ordinary legend in regard to the mother of Prometheus, and why?

7. Where are Dodona? Lerna? the Caucasus? Why is the conjectural reading in line 677 unnecessary?

8. Scan lines 1, 2, 6, 397-405, and 1060-1062, marking the quantities of every syllable, the divisions of the feet, and the places of ictus and cæsura, and naming the metres and the feet.

## THUCYDIDES.

1. Translate I. xxii.

2. What tenses of the infinitive may follow *μέλλω*? Where is the antecedent of *αὐτῷ* (1)? Expand *ῶν* (1). Rules for the cases of *γνώμης* (1). *τοῦ παρατυχόντος* (2), *οἷς*, *ἀκριβείᾳ*, *ἐκάστου*, *ἐκατέρων* (3), *ἀκρόασι* (4). Expand *παρά τῶν ἄλλων*. Comment on the mood and tense of *ἐδόκουν* and *ἔχου*.



3. Translate II. xliii.

4. Rules for the mood and tense of *μηχύνουι, δόξη, σφαλείησαν*. Why *μηδέν* (1) rather than *οὐδέν*? Rules for the cases of *πείρα* and *τον, κοινῇ, δίου*. What is the easiest remedy of the textual difficulty in the last sentence of the chapter?

5. Translate II. lxv. 8-14.

6. Comment on *προγεγενημένων* (I. i. 1). Force of the two prepositions in the compound word *μεταναστάσεις* (ii.) Comment on *οἱ γὰρ ἐν Σικελίᾳ* (xvii.).

7. Why does Homer never speak of all the Greeks under one common name?

Can you think of anything in the geographical position and the physical geography of Acarnania and Aetolia to account for the rudeness of the inhabitants (I. v.)?

To which of the great races of the Greeks did the Athenians and the Spartans belong, respectively? The chief characteristic differences between these races?

In which direction did the Thebans march in going to Plataea? What stream flows between the two towns?

8. Describe the style of Thucydides, and his merits as an historian. What high idea had he of the purpose of history? When did he begin the composition of his work?

Give the dates of the most important events in the Peloponnesian war.

### THE ANTIGONE OF SOPHOCLES.

1. Rules for the mood of *κλύεις* (19) and *εὐρεθείη* (327). Comment on the use of *μή* in lines 91 and 500, and on *γάρ* in lines 44, 450, and 511.

2. Translate lines 388-400.

3. Rules of syntax for *ἀπειλαις, μῆκος, ἡδονῇ*, and *κακῶν*. Resolve *δοῦρμαιον* and comment upon it.

4. Translate lines 444-462.

5. From what verbs are *ὑπερδραμεῖν* and *ἐξήδη*, and where made? Principal parts of *θανομένη*.

6. Translate lines 891-899.
7. What emendations have been proposed in lines 106 and 110?
8. What is for the most part the metre of the dialogue in Attic tragedies? For the expression of what kind of sentiments are dochmiacs appropriate? Indicate fully the scanning of lines 8, 9, 11, 781-790, and 1317-1325.
9. Tell briefly the story of Œdipus and his children, and the plot of this play.
10. Name the three great Athenian tragedians, with the dates at which they flourished, and give the characteristics of each as an author.

#### LIVY.

- I. Translate XXI. iv., lines 15-30
- II. What is the force of *quisque* with a superlative? Explain the case of *Hannoni*, *Humilcarem*, *parendum*, *duce*; and the mood of *credere*, *esset* (24), *discerneret*, *esset*.
- III. Who were the persons named in this passage?
- IV. Translate XXI. xxvii. p. 106, lines 3-22.
- V. Explain the mood or case of *averteret*, *vigilia*, *facto*, *adoriatur*, *milis*, *insulae*, *eo*, *traicerentur*.
- VI. Give the principal parts of *terrebant*, *averteret*, *jubet*, *trajecto*, *caesa*, *transivere*, *fessus*, *exsequendum*.
- VII. Translate XXI. xli., p. 118, lines 30-39.
- VIII. In what construction is *vestri adhortandi*, *existimet*, *licuit*, *haberem*, *praeterveheret*?
- IX. Translate into Latin:—Do not fear, oh brothers, that the enemy may think that we sailed past the coast of Gaul for the sake of disembarking in Spain. It was permitted us to proceed where Hasdrubal rather than Hannibal would have been our enemy.

## HORACE.

## I. Translate :—

Parcus deorum cultor et infrequens,  
 Insanientis dum sapientiae  
     Consultus erro, nunc retrorsum  
         Vela dare atque iterare cursus  
 Cogor relictos : namque Diespiter,  
 Igni corusco nubila dividens  
     Plerumque, per purum tonantes  
         Egit equos volueremque currum,  
 Quo bruta tellus et vaga flumina,  
 Quo Styx et invisi horridi Taenari  
     Sedes Atlantensque finis  
         Concutitur. Valet ima summis  
 Mutare et insignem attenuat deus,  
 Obscura promens ; hinc apicem rapax  
     Fortuna cum stridore acuto  
         Sustulit, hic posuisse gaudet.

II. Explain Horace's allusion in *insanientis sapientiae*, and his change of religious views ; the composition and derivation of *Diespiter* ; the meaning of *Atlanteus finis* ; the locality and meaning of *Taenarum* ; the grammatical use or construction of *erro, sapientiae, Quo, mutare, summis* (and remark upon other constructions with *mutare*), *sustulit, posuisse*. Give the equivalent pronouns for *hinc—hic*.

## III. Translate :—

Rectius vives, Licini, neque altum  
 Semper urgendo, neque, dum procellas  
 Cantus horrescis, nimium premendo  
     Litus iniquum.  
 Anream quisquis mediocritatem  
 Diligit, tutus caret obsoleti  
 Sordibus tecti, caret invidenda  
     Sobrius aula.  
 Saepius ventis agitatur ingens  
 Pinus, et celsae graviore casu  
 Decidunt turres, feriuntque summos  
     Fulgura montes.

IV. Explain the metre of this ode, properly marking the feet and quantities of the first two stanzas.

Appropriateness of the word *auream*. What special grammatical remark may be made upon *Rectius*, *Licini*, *urgendo*, *horrescis*, *sordibus*?

V. Name and denote by proper marks the metre of the following stanzas :—

O fons Bandusiae, splendidior vitro,  
 Dulci digne mero non sine floribus,  
     Cras donaberis haedo,  
     Cui frons turgida cornibus  
 Primis et venerem et proelia destinat;  
 Frustra: nam gelidos inficiet tibi  
     Rubro sanguine rivos  
     Lascivi suboles gregis.

VI. Translate :—

Nunc ad me redeo libertino *patre* natum,  
 Quem rodunt omnes libertino *patre* natum,  
 Nunc, quia *sim* tibi, Maecenas convictor: at olim,  
 Quod *mihi* pareret legio Romana tribuno.  
 Dissimile hoc illi est; quia non, ut forsit honorem  
 Jure mihi *invideat* quivis, ita te quoque amicum,  
 Praesertim tantum dignos *assumere*, prava  
 Ambitione procul. Felicem dicere non hoc  
 Me *possim*, casu quod te sortitus amicum;  
 Nulla etenim mihi te fors obtulit: optimus olim  
 Vergilius, post hunc Varius dixere *quid essem*.  
 Ut veni coram, singultim pauca locutus,  
 (Infans namque pudor prohibebat plura profari,)  
 Non ego me claro natum *patre*, non ego circum  
 Me Satureiano vectari rura caballo,  
 Sed, *quod eram*, narro. Respondes, ut tuus est mos,  
 Pauca: abeo; et revocas nono post *mense* jubesque  
 Esse in amicorum numero. Magnum hoc ego duco,  
 Quod placui tibi, qui *turpi* secernis honestum,  
 Non *patre* praeclaro, sed *cita* et pectore puro.

VII. What history of Horace's life and times can be gathered from his writings which you have read? Give the grammatical construction of the words in *Italics*.

## THE AGRICOLA OF TACITUS.

1. Translate Chapter V.
2. Give the rules of syntax for *contubernio*, *aestimaret*, and *noscere*.
3. Rules for the mood of *occurreret* (ii), *addiderim* (x), *coluerint* (xi), *deprehendas* (xi), *quaereretur* (xiv); and for the mood and tenses of *perdidissemus* and *esset* (ii *in fine*).
4. Translate Chapter XXX. to *Sed nulla*.
5. Composition of *expers* and *securus*
6. What is the force of *citra* in *citra fidem* (i), *citra Romanum sanguinem* (xxxv)?  
 Meaning of *divus* before an emperor's name?  
 Give the English dates corresponding to the Roman dates in Chapter xliv.  
 How is the emperor C. Caesar generally called?
7. Where were *Frojuliensium colonia*, *Massilia*, *Liguria*, and *Mona*?  
 What was Tacitus's idea of the relative situation of Britain, Ireland, and Spain?

## CICERO'S TUSCULAN DISPUTATIONS.

1. Translate I. xi. to § 24.
2. What kind of a pronoun is *quae* (22)? Can a relative stand in this position? Rules for the mood of *omittamus*, *conficiat*, *sit*, *cuperem*, *posset*, *disserantur*.
3. Translate xix., beginning at § 44.
4. Rules for the mood of *habeant* and *velimus*, and for the cases of *corporibus*, *multo*, *ea*.
5. Translate xxxv., § 85.
6. Rules for the mood of *sit* and *habeat*, and for the cases of *filiis*, *uxore*, *progenie*.
7. To what school in philosophy did Cicero belong? Characteristics of that school? Its founders? What proposition is defended in the first book of the *Tusculans*? What were the views of the Epicureans in regard to immortality? What the views of the Stoics? How did educated men in Cicero's day regard the ancient mythology?

## ELEMENTARY GERMAN.

1. Translate: Darauf fasste er Wasser in seine hohle Hand aus dem Büchlein, das vorüber floss, und besprengte dreimal die Aeste, und siehe, nun hingen die Aeste allesammt voll grünender Blätter, also dass ein kühler Schatten uns umgab, vermisch mit lieblichen Düften. Woher, rief ich, diese Wohlgerüche zu dem erquicklichen Schatten?

Siehst du nicht, sprach der Mann Gottes, die purpurfarbige Blüthe, wie sie aus den grünen Blättern hervorsprossset und in Büscheln herniederhängt?

2. In what case is *Hand*? Give the rule of syntax. Of what declension is *kühler*? *erquicklichen*? Give the rule of declension in each instance. Parse *hängen* and *rief*, and give their principal parts.

3. Inflect the adjective *gut*, in both declensions; and state fully the rules which determine the declension of an adjective to be used in any instance.

4. Give the principal parts of *denken*, *geben*, *gehen*, *lesen*, *liegen*, and *sitzen*.

5. Translate into German:—

The flowers are blue, and white, and red.

The blue flowers in the little basket are very beautiful.

The pretty child has a little red apple in its right hand.

The English woman is handsome, but the American woman is yet handsomer.

The landlord's eldest daughter is prettier than the merchant's younger sister.

A good, sensible teacher loves an industrious boy.

You are giving yourself unnecessary trouble.

The merchant gives me my bill, and I give him his money.

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 RHETORIC.

1. What is the first step which should be taken by one who wishes to convey truth to others by reasoning? What common faults will be avoided by observing this rule?

2. Which is the more likely to furnish copiousness of matter, a wide or a restricted view of a subject?

3. What is the proper province of Rhetoric as distinguished from Logic? Give an example of an *à priori* argument as defined by Whately, and the *test* by which such an argument is recognized. Which of the two great classes of *arguments*, as such, is the more effectual in refutation?

4. Illustrate the distinction between logical and physical sequences.

5. On what kind of testimony do men in general believe in such facts as the motions of the heavenly bodies?

6. On which side did the presumption lie in regard to the truth of Christianity, at the introduction of the religion? What is the rhetorical meaning of *presumption*, corresponding with the etymology of the word? How far is there an advantage in having the presumption in one's favor? What is *deference*? In what cases does there exist a counter presumption to that implied in the rule, *perit is credendum est in arte sua*?

7. Which is the more effective *order* in presenting the arguments belonging to the two classes of arguments as such, in the statement to infidels of the evidences of Christianity, and why?

8. How should one's style of narration differ, according as he desires to excite the feelings of his hearers as much, or as little, as possible?

9. How far are appeals to the passions or emotions justifiable? Are our feelings under the *immediate* control of the will? How can they be excited or allayed?

10. Of what advantage is a lively imagination in the study of history?

11. Which class of terms make the most vivid impression, *general* or *special*, and why?

12. Define *metaphor*, *simile*, *epithet*, and *antithesis*, and give an example of each.

### LOGIC.

1. Are arguments necessarily, or generally, written in the syllogistic form? What is the advantage, in the examination of arguments, of reducing them to this form? What is an argument with one premise suppressed called?



2. Which of the following moods are invalid, and what is the logical fallacy in each instance of invalidity?—In the first figure AEE, AII, EAA, IAA; in the second figure, AAA, AII, AOO; and in the third, AAA, IAI.

3. The premises being probable, how can we estimate arithmetically the probability of the conclusion?

4. The difference between a property and an accident? What is the objection to such a statement as this: Books are *divided* into quartos, French books, histories, Elzevirs, etc.?

5. What fallacy is employed in our language the more easily from the fact that English is a composite of Latin and Saxon, and how?

6. What two kinds of "New Truth" and "Discovery" are there, taking these words in their widest sense? Can either kind be elicited by a process of reasoning?

7. What is the difference between proving and inferring? What between a verbal and a real question?

8. Are the following arguments sound? If not, what are the fallacies?

"All studies are useful which tend to increase national and private wealth; but the course of studies pursued at Oxford has no such tendency; therefore it is not useful."

"Testimony is a kind of evidence which is very likely to be false; the evidence on which most men believe that there are pyramids in Egypt is testimony; therefore the evidence on which most men believe that there are pyramids in Egypt is very likely to be false."

"He who cannot possibly act otherwise than he does, has neither merit nor demerit in his action; a liberal and benevolent man cannot possibly act otherwise than he does in relieving the poor; therefore such a man has neither merit nor demerit in his action."

9. What axiom or first truth is the groundwork of induction? Which is generally the least certain proposition in an inductive syllogism?

10. State the most important of the modifications which Sir William Hamilton has proposed in the science of Logic. Which of them has the most practical value?



## MENTAL PHILOSOPHY (HAYES).

1. "The science of matter and the science of mind agree perfectly in this, that all we know of either matter or mind, is"—what?

2. What fact is told of a short-hand writer in the House of Lords, and what theory does Wayland deduce from it in regard to consciousness? Will the facts bear out the theory, or how otherwise may they be explained?

3. What answer can be given to those who deny the credibility of our senses?

4. Into what three classes does Hamilton divide the qualities of bodies, and how are these classes characterized? Name the most important qualities of bodies under these different heads.

5. State the principal laws of the association of ideas.

6. What effect has the invention of printing had upon the use and development of extraordinary powers of memory? What directions are given for the cultivation of the memory?

7. What is the character of intuitive ideas? what their relation to experience, logically and chronologically? Give the most important criteria of instinctive beliefs or first truths. What is the importance of first truths in science and reasoning?

8. Give a brief exposition of the spiritual theory of beauty.

9. Name and characterize the three classes into which the sensibilities may be divided. What is the natural order of the several classes of emotions in relation to each other?

10. State the most important presumptions in favor of the freedom of the will. What is the ultimate proof of human freedom? How can strength of will be cultivated?

## INTELLECTUAL SCIENCE (PORTER).

1. Explain the scientific basis of psychology, and its relations to physiology.

2. What are the most important relations of the soul to matter, and what arguments against materialism may be drawn from those relations?

3. Define *subjective* and *objective*, and describe the faculties which are mathematically deducible from their necessary mutual relations.

4. Define consciousness, and give a brief summary of the chief views that have been held respecting it.

5. In what respects does the division of the mind into faculties differ from physical divisions into parts or organs?

6. What are the principal criteria of knowledge, and what are the necessary relations of knowledge to faith?

7. Describe the process of Sense-perception, and the several conditions involved in its exercise.

8. Define and explain the Representative Power, its subdivisions, and their respective offices.

9. Give a brief statement of the argument upon the question of Free Will.

10. Explain the intuitions of Time, Space, Causation, and Design.

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### POLITICAL ECONOMY.

1. Explain each of the four divisions of Political Economy.

2. Explain the three changes which human industry can effect in matter.

3. In what proportion will labor generally be applied to capital? How will labor be affected by division of property? How will division of property depend upon the condition of the government? Show the operation of a still greater security for property than the government.

4. What are the disadvantages of relieving men from the necessity of labor?

5. Upon what does the rate of wages depend, and why?

6. How will exchanges be affected by the intelligence or ignorance of a people?

7. Why are rapid exchanges peculiarly profitable, even with a small profit on each?

8. How may different persons' debts be used to check one another by the agency of Banks?

9. Explain the origin of Rent.

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### KENT'S COMMENTARIES.

1. How did the United States come under the International Law of Europe?

2. What is a necessary consequence of the equality of nations?
3. What is the extent of jurisdiction over adjoining seas?
4. What is equivalent to a declaration of war on the part of the United States?
5. How is privateering allowed to be carried on?
6. What is the law for enemies' goods found in a neutral ship, and a neutral's goods in an enemy's vessel?
7. What is to be said on the right of search?
8. What successive steps have been taken by the United States, and when, to suppress the Slave Trade?
9. What are the proceedings which led to the formation of the Constitution?
10. What is the constitution of the Senate as to the number and qualification of members, their term of service, and manner of election?
11. What is the constitution of the Lower House in these respects?
12. In what do the functions of the Senate differ from those of the Lower House?
13. Explain what is meant by Statute Law and Common Law?
14. Give your best account of the Civil Law.

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#### PALEY'S EVIDENCES OF CHRISTIANITY.

1. Show the probability that Paley's first proposition derives from the nature of the case.
2. Show how far the testimony of heathen writers tends to support the first proposition.
3. Show that the story for which the first propagators of Christianity suffered was a miraculous one.
4. Show that the same is the story which we now have.
5. Show how early the historical books of the New Testament were referred to, and with reverence, by Christian writers.
6. On what grounds have the Apocryphal writings no place in the New Testament canon?
7. In estimating stories of miracles brought into competition with those of early Christianity, what seven particulars must be laid out of the case?

8. What testimony to the Christian miracles and story is borne by the early rapid reception of the unpopular religion?

### DYMOND ON MORALITY.

1. Show how the standard of morality recognized by Dymond is really the basis of the standards known under the name of the Understanding, Sympathy, Accordance with Nature in conformity with the Conscience, the Eternal and Necessary Differences of things, and Utility, respectively.

2. On what two modes of communication of the Divine Will to men, do Christians most rely? Which of them is primary, which secondary, and what other modes are subordinate to these?

3. Exhibit the inferiority of human calculations of Expediency as a primary guide in morals, as respects, 1st, the Future Life; 2d, the Christian Revelation; 3d, Promptness, Clearness, and Simplicity; 4th, Obviousness and palpability of Sanction.

4. Explain the relation of Conscience to the Sense of Obligation; and produce a definition of Conscience accordingly, so as to show why every one's conscience is not infallible.

5. Demonstrate the duty and limit of Civil Obedience.

6. What moral restrictions should be observed in legal practice?

7. Show that Oaths are condemned by reason and by Christianity.

8. Give a synopsis of the argument against Capital Punishment.

9. Show the incongruity of War with Christianity according to Prophecy, the teachings of the New Testament, and the testimony of the early Christians.

### BUTLER'S ANALOGY.

1. How is each apprehension that death will destroy us, removed?

2. How are pleasures and pains accounted for? Compare the teachings of the Scriptures and of nature on this subject.

3. How can we explain the fact that gratifying results sometimes follow evil deeds?

4. What discipline suits us for a happy condition in this life; and what is the relation of such discipline to the world to come?

5. How is a new character formed naturally? Describe the natural supply to our deficiencies.

6. What accompanies the progress of resistance to evil?

7. What of the objection that there is no merit in obedience induced by hope or fear?

8. Why is there no man who can, with reason, censure the least particular in the works of God? How would this apply to any written revelation from Him?

9. Compare Christianity with natural religion as to their contents and relative importance.

10. Show that the whole world exhibits mediation. Compare repentance in nature and in the gospel, as preventive of punishment.

11. Answer the objection made against Christianity, that if it were true it would be more unmistakably and universally made known.

#### EUCLID.

1. If, from the ends of one side of a triangle, straight lines be drawn to a point within the triangle, these straight lines shall be less than the other sides of the triangle, but shall contain a greater angle. (21.1.)

2. If a straight line cut two parallel straight lines, it makes the alternate angles equal to each other; the exterior angle equal to the interior and opposite on the same side; and the two interior angles on the same side equal to two right angles. (29.1.)

3. The sum of the squares of the diagonals of a parallelogram is equal to the sum of the squares of the sides. (B 2.)

4. The angle in a semicircle is a right angle, etc. etc. (31.3.)

5. Describe a circle about a given square.

6. If four quantities be in proportion, they will be in proportion by *division*.

7. If a straight line be drawn parallel to one of the sides of a triangle, it will cut the other sides proportionally. (2.6.)

8. Cut a given straight line in extreme and mean ratio. (30.6.)
9. If a straight line be perpendicular to two straight lines at the point of their intersection, it is perpendicular to the plane in which these straight lines are. (4.2 Sup.)
10. Define Cone, Cylinder, Pyramid, Prism, Paralleliped, Parallelogram, Rhombus, Scalene Triangle, Axiom, Hypothesis.

## ALGEBRA.

1. Define Exponent, Coefficient, Monomial. State the rules for signs in subtraction and multiplication.
2. From  $\frac{x+y}{x-y}$  take  $\frac{x-y}{x+y}$ .
3. Expand  $(\frac{1}{2}x - 3ax)^4$  by the Binomial Theorem.
4. Given  $\sqrt{a^2 + x} + \sqrt{x} = \frac{2a^2}{\sqrt{a^2 + x}}$  to find  $x$ .
5. A. can do a piece of work in 20 days, and B. and C. together can perform it in 12 days. Now, if all three work for 6 days, C. can finish it in 30 days. In what time would B. and C. have performed it?
6. The sum of the square roots of the means of four numbers in arithmetical progression is 19, and the difference of the extremes 171. What are the numbers?
7. Given  $\sqrt{\frac{a^2}{x^2} + b^2} - \sqrt{\frac{a^2}{x^2} - b^2} = b$  to find  $x$ .
8. A person laid out a certain sum of money upon a speculation, upon which he found he had gained £69 the first year. This he added to his stock, and at the end of the second year found he had gained as much per cent. as in the year preceding. Proceeding in the same manner for four years, he found at the end of that time that his stock was to the sum invested as 243 to 48. What was the sum laid out, and the gain per cent.?
9. Given  $\sqrt{x^5} - \frac{46}{\sqrt{x}} = 3x$  to find  $x$ .

## TRIGONOMETRY.

1. Deduce expressions showing the relations of sines, cosines, tangents, etc., to each other.

2. Prove that in any plane triangle, the base is to the sum of the sides, as the difference of those sides is to twice the distance between the middle of the base and the perpendicular let fall on it from the vertex of the triangle.

3. In a right-angled triangle, there are given one of the legs 94, and the segment of the hypotenuse adjacent to the other leg made by a perpendicular from the right angle 66, to determine the triangle.

4. Define spherical angle, triangle. What measures a spherical angle?

5. Prove that, in isosceles spherical triangles, the angles opposite the equal sides are equal.

6. In a right-angled spherical triangle, given the hypotenuse and one of the oblique angles, to determine the other parts by Napier's Rules.

7. Show how to cut a cone to obtain the five conic sections.

8. Prove that in a parabola the abscissas vary as the squares of the ordinates.

### ANALYTICAL GEOMETRY.

1 Construct the expression

$$x = \sqrt{a^2 - bc}.$$

2. Determine the area of a triangle whose angular points are 3, 4; —3, —4; 0, 4.

3. Find the equation of the straight line that passes through the points

$$x_1 = 1, y_1 = 2 \text{ and } x_2 = 2, y_2 = -4.$$

4. Find the equation of the circle referred to any rectangular co-ordinates, and from the equation show when the curve will cut the axes.

5. Find the equation to the tangent at any point of the parabola.

6. Trace and name the curves of which the following are the equations, and state the number of points of intersection:—

$$y^2 = 100 - x^2$$

$$y^2 + (x-2)^2 = 64.$$

7. Trace the curve

$$y^2 = x^3 - x.$$



8. Determine the curve which results from the intersection of a right cylinder with a plane.

### DIFFERENTIAL CALCULUS.

1. What is the object of differential calculus?
2. Deduce the formula for finding the differential of the product of two functions depending on the same variable.
3. Differentiate  $\frac{u}{v}$ , performing the operation in full, and thus form a rule for differentiating a fraction.
4. Deduce Maclaurin's theorem.
5. What is the length of the axis of the maximum parabola which can be cut from a given right cone?
6. Differentiate the function  $u = (a^x + 1)^2$ .
7. Prove the rule for differentiating the sine of an arc.
8. Integrate  $du = (a + x)^n x^{n-1} dx$ , and give the rule for integrating all analogous expressions.
9. Integrate  $du = \frac{dx}{a + x}$ . Integrate by series.
10. Find the expression for  $\log(a + x)$ .
11. Find the area of the common parabola.
12. Find the solidity of a sphere.

### DESCRIPTIVE ASTRONOMY (HERSCHEL).

1. Explain what is meant by the *Equation of Time*, and give the cause of it. What are the lengths of the sidereal and tropical years, and why do they differ?
2. Prove from our knowledge of the time of the moon's revolution that gravity varies inversely as the square of the distance.
3. At what intervals do *Transits of Venus* occur? Explain the method of obtaining the sun's distance by transits. Why is it more accurate than direct observations for parallax?
4. Describe *Encke's Comet*. For what is it noted?
5. Explain Bessel's method of obtaining the parallax of 61 Cygni. What are its parallax and distance?



6. Describe the variations of the periodical star *Algol*. By what are they probably occasioned?

7. Explain the necessity for *Leap Years*; and give the Gregorian Rule.

8. Give the diameter of the *Earth*—the *Sun*—*Jupiter*; distance from the Sun of *Venus*—*Saturn*. How much is the earth's axis inclined to the plane of the ecliptic?

### PRACTICAL ASTRONOMY.

1. Describe the Equatorial Telescope.

2. What is a Transit Instrument? What are its adjustments, and for what purposes is it used?

3. Find the amplitude and the hour angle of a Star when it is in the horizon, the declination of the Star and the latitude of the place being given.

4. Define *Solar Day* and *Sidereal Day*, and give the rule for converting the one kind of time into the other.

5. The Longitude and Latitude of a Star being given, find its Right Ascension and Declination.

6. Explain Parallax, and find the Parallax in Altitude of the Moon.

7. What is the latitude of a place equal to? and how may it be derived from observations of a Circum-polar Star?

8. Explain by a diagram the mode of determining, both by construction and calculation, the times of beginning, middle, and end of an eclipse of the Moon.

### CHEMISTRY.

1. Is there any exception to the law that all bodies expand by heat and contract on cooling? if so, what is it, and under what circumstances does it occur? Give the experiment.

2. Explain the formation of dew. Why is it deposited during clear nights only, and why in calm nights only? What is meant by the dew point?

3. In obtaining oxygen from potassium chlorate, what chemical changes in this salt occur? Write the reaction.

4. In obtaining hydrosulphuric acid from iron protosulphide

and diluted sulphuric acid, what chemical changes take place? Write the reaction.

5. If air be admitted to sulphuretted hydrogen water, what chemical change will occur? Write the reaction.

6. If, while sulphuretted hydrogen was flowing from the tube in the above experiment, the gas were ignited, what chemical changes would *then* take place in the compound gas? Write the reaction.

7. If sulphuretted hydrogen water be added to a solution of the acetate of the oxide of lead, what changes will occur?

8. What reactions will take place if a solution of  $\text{FeSO}_4$  in water be mixed with hydrosulphuric acid and then some lime-water be added to the mixture?

9. When phosphuretted hydrogen is obtained from lime and phosphorus in water, what new compounds result? On admitting air to this gas, what chemical changes occur?

10. What chemical changes take place in a Grove's battery when in action?

11. What is dextrine, and how is it produced? Under what circumstances is diastase produced, and what specific action has it upon starch?

### PHYSICS. (SOPHOMORE CLASS.)

1. Through what space would a body descend *in the fifth second* of its fall? How many feet would it have fallen through *in four seconds*? Prove both answers.

2. What is the law of the Inclined Plane?

1. When the power acts parallel to the plane?

2. " " " " base?

Prove both cases.

3. Describe the Hydraulic Press. Upon what principle of hydrostatics is it founded?

4. In what three particulars do musical sounds differ from one another? Upon what does each depend? Give the laws governing the vibrations of strings.

5. Explain what is meant by *latent heat*. What are Freezing Mixtures? Give the reason why they lower the temperature.

6. If a pencil of diverging rays fall upon a plane mirror, from what point will the reflected rays appear to proceed? Prove its

position. What is meant by *conjugate foci* of a spherical concave mirror? Prove the equation by which, if we know the radius of the mirror and the position of either focus, we can determine that of the other.

7. What is meant by spherical aberration of lenses? by chromatic aberration? How is the latter corrected?

8. Describe the Leyden Jar. Explain its theory. Give the reason for the existence of free electricity in the Leyden Jar.

9. Describe the Galvanometer—and explain its use. What is an electro-magnet? What is supposed to be the source of the earth's magnetism?

### MECHANICS OF SOLIDS.

1. Prove that if three forces be in equilibrium, each is proportional to the sine of the angle between the other two.

2. Deduce expressions for the measure of the tendency to rotation, of a system of forces, about three rectangular axes.

3. Let there be a square, and suppose it divided by its diagonals into four equal parts, one of which is removed. Required the distance of the centre of gravity of the remaining figure from the opposite side of the square.

4. A sustaining wall of granite has a rectangular cross-section. From the following data find the least thickness to prevent overturning: Height 12 ft.; pressure of 4500 lbs., applied horizontally 4 ft. from base (case of water pressure); weight per cubic foot of granite, 160 lbs.

5. Find the ratio of power to resistance in a wedge.

6. Define co-efficient of friction, and explain a method for obtaining it.

7. From the general equation for bodies projected vertically,  $h = vt - \frac{1}{2}gt^2$ , prove that the path of a projectile is a parabola.

8. Given the distance between the rails =  $d$ , radius of curve =  $r$ , height of centre of gravity of car =  $h$ ; what velocity must be given to the car that it may be on the point of being overturned by centrifugal force, the rails being on the same level?

9. Define *Work*, and give the expression for it. What is a horse-power?

10. Explain the principle of the gyroscope.

## GUYOT'S EARTH AND MAN.

1. Give the main features of the relief of the two continents.
2. Give a probable theory of the origin and growth of the earth.
3. Give the cause of the trade winds; of the prevailing winds of the Temperate Zones; of the Monsoons.
4. Explain the course of main ocean currents.
5. Give illustrations of the reliefs of countries affecting their history.
6. Give the main points of superiority and inferiority of the Tropic and Temperate Zones.
7. Give the characteristics of the civilizations of Western Asia, India, Greece, Rome.

## GEOLOGY.

1. Define *rock, strata, formation, layer, outcrop, dip, strike, anticlinal*.
2. What are the principal elementary constituents of rocks? Describe the most important minerals.
3. Name the different kinds of rock-structure, and give an account of their origin.
4. Explain some of the principal difficulties in determining the age of rocks, and the best means of determining identity of formation.
5. What is meant by non-conformable strata, and how are they accounted for?
6. Give the characteristics of each of the Geological Ages, and name their principal subdivisions.
7. Describe the development of life in successive ages, and the rock-formations that are due to vital organisms.
8. Describe the processes, results, and evidences of denudation.
9. In what region of America are there evidences of the greatest geological changes? State the thickness of the formations, and how they were formed.
10. Explain the dynamic actions of air, water, and heat, and the principal formations to which they have contributed.

## ZOOLOGY.

1. Give a general description of the Animal Kingdom.
  2. Point out some of the most important relations between Zoology and Geology.
  3. Name the formations of vegetation and of animal life, and describe the processes of nutrition and growth.
  4. Describe the different tissues of the animal body.
  5. What are the Branches, or Sub-kingdoms of the Animal Kingdom, and their several characteristics?
  6. Give the subdivisions of the branch to which man belongs, and describe their peculiarities.
  7. Name the principal points, both of resemblance and of difference, between Man and the Simiadae.
  8. Describe the Ungulata and Cetacea, and their sub-sections.
  9. Give a description of the principal sub-sections of the Aves, Reptilia, and Batrachians.
  10. Name the characteristics of the Insecta, Crustacea, and Annulata.
  11. Define Cephalopods and Gasteropods. Name typical genera of each.
  12. Describe the Asteroidea, Hydroidea, Infusoria, and Rhizopoda.
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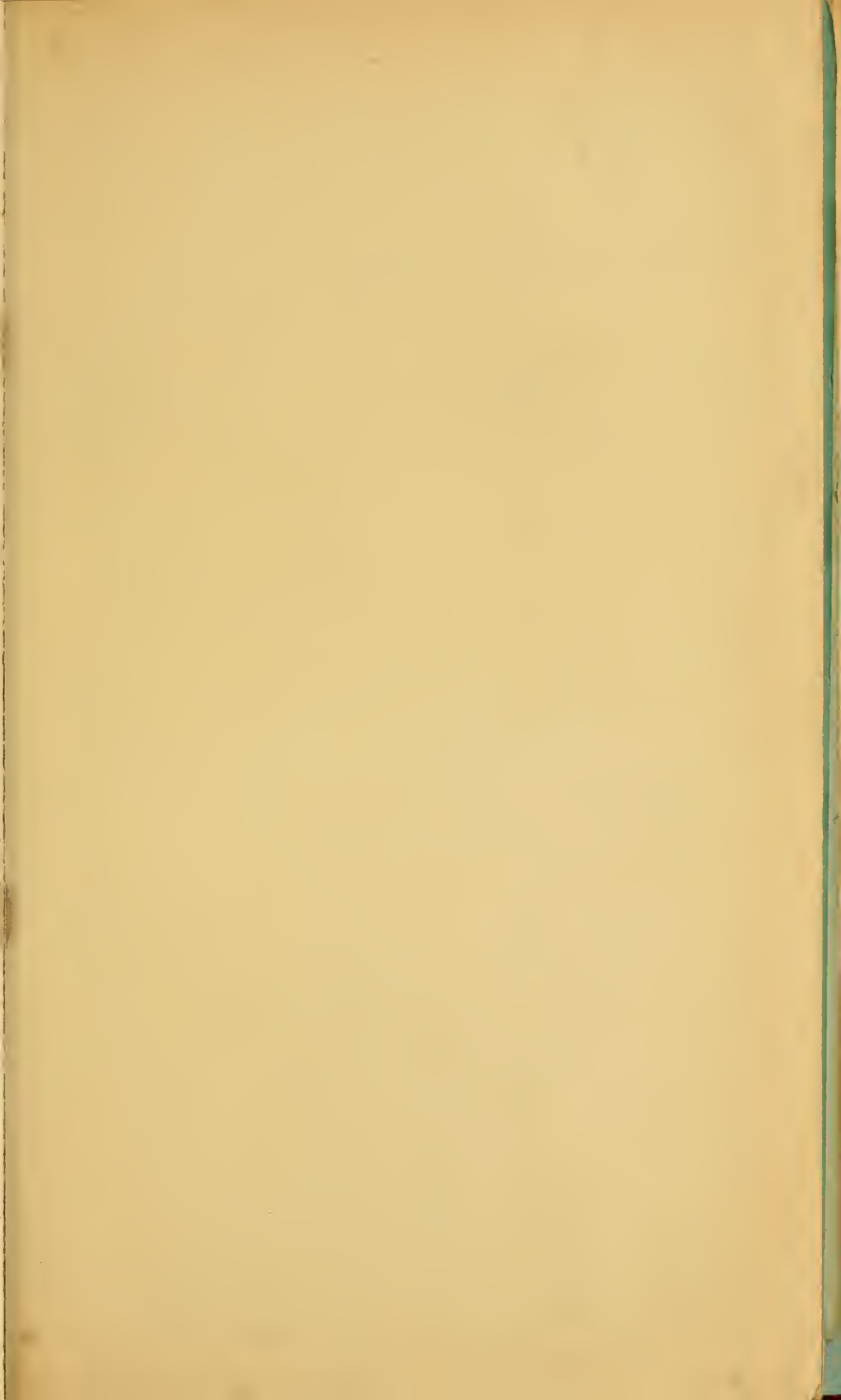
## ANATOMY AND PHYSIOLOGY.

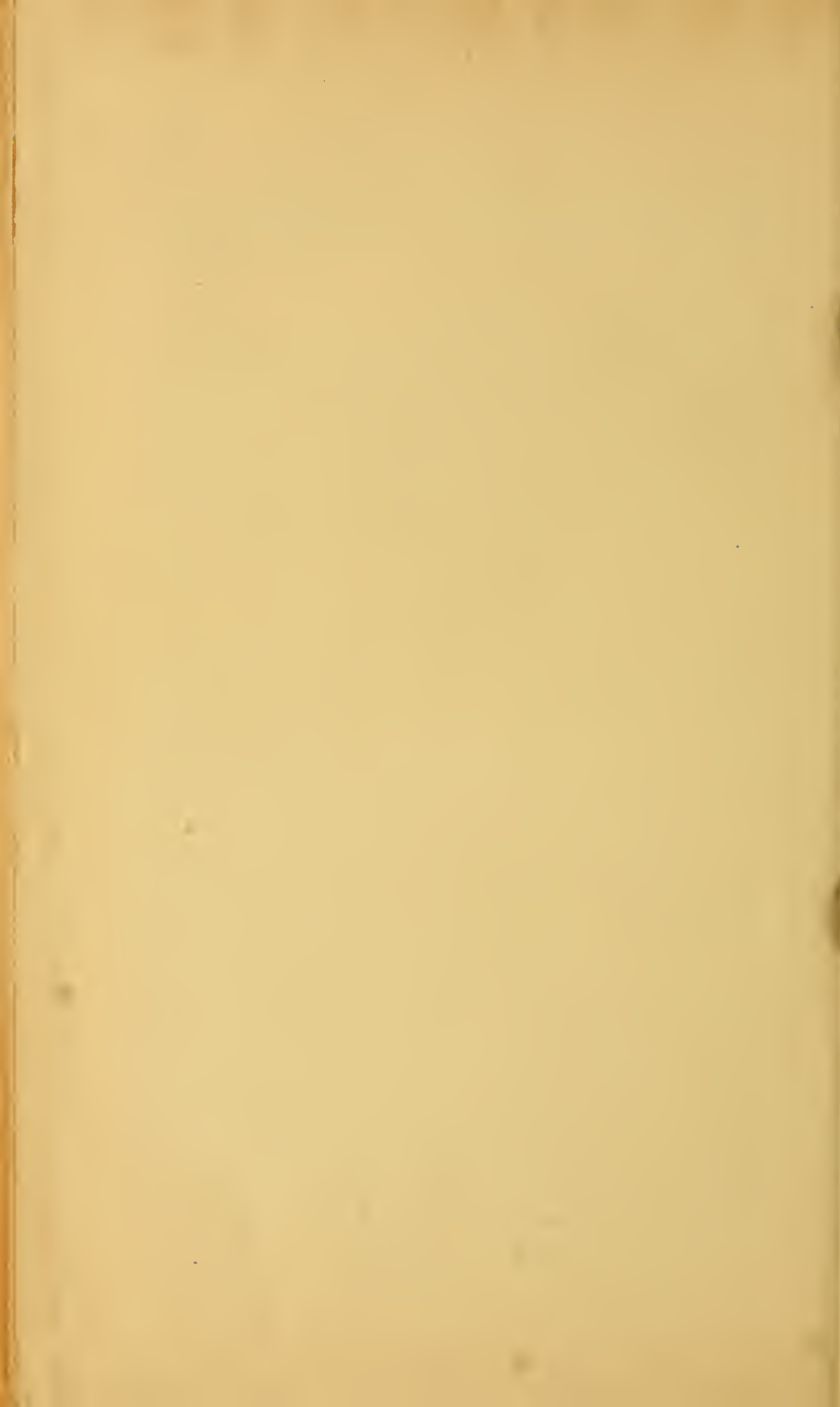
1. Give the composition and structure of bones, and the names of the bones of the upper extremities.
2. Give the composition of *fats*, the changes they undergo in the body, the kind of tissue they form, and its use in the system.
3. Describe the complete course of the blood through the system. Draw a diagram of, and name the main arteries of the lower extremities.
4. Give the functions of the liver.
5. Give the subdivisions and functions of the pneumogastric nerve.
6. Describe the organ of hearing. What arrangement is there to destroy waves of sound in the ear?

7. Describe accurately the hip-joint. Give the bony prominences in its vicinity, and the actions of the principal muscles thereto attached.

*The foregoing Examination Papers are chiefly those of the last academical year, with a few which were used in former years. They represent fairly the character of the questions generally asked. The examination in Mechanics in 1876 took the place of the former examinations in Senior Physics. Examinations have also been held in some other subjects, as Integral Calculus, Hygiene, and additional classical authors.*

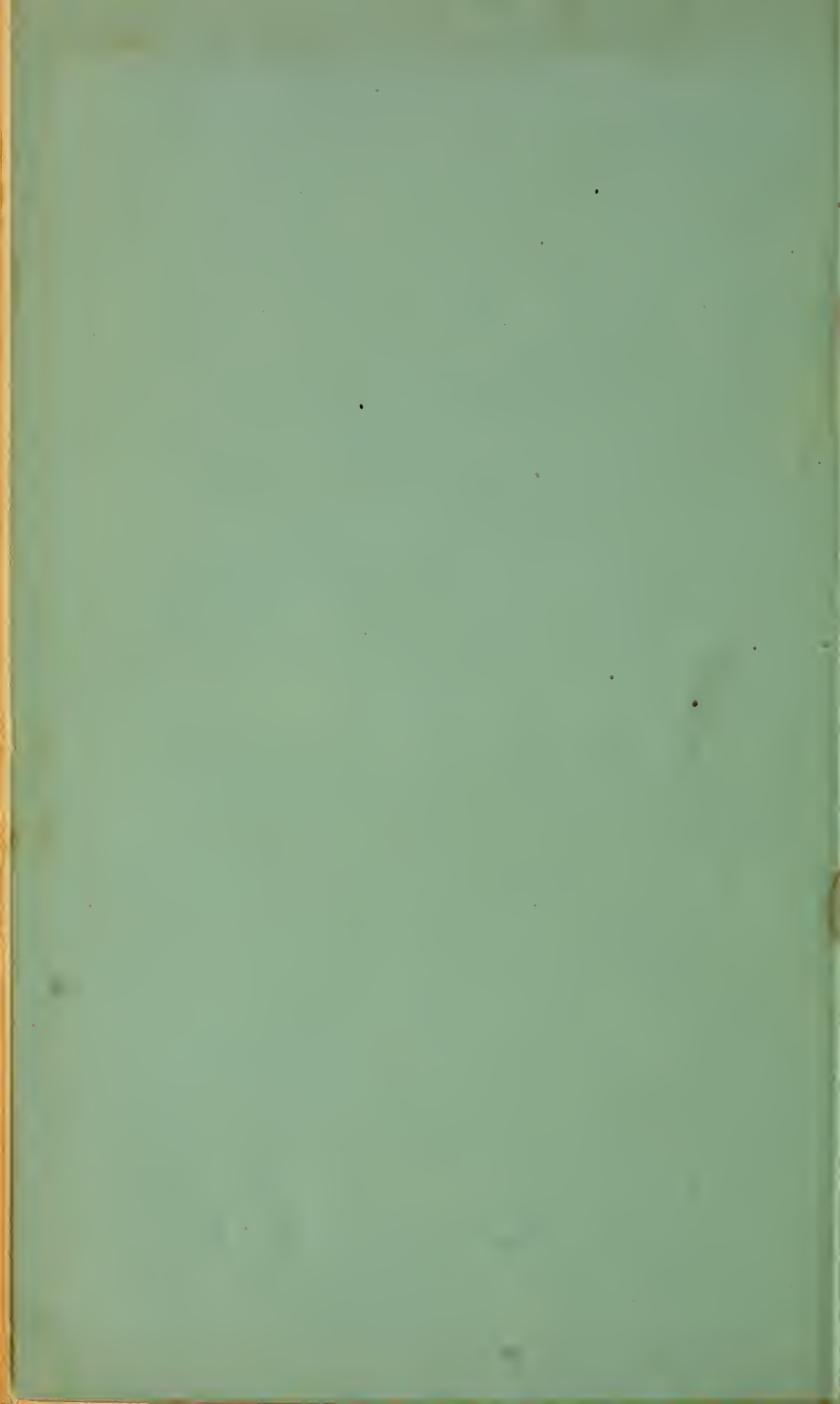
*New papers of questions are prepared for the examinations every year.*









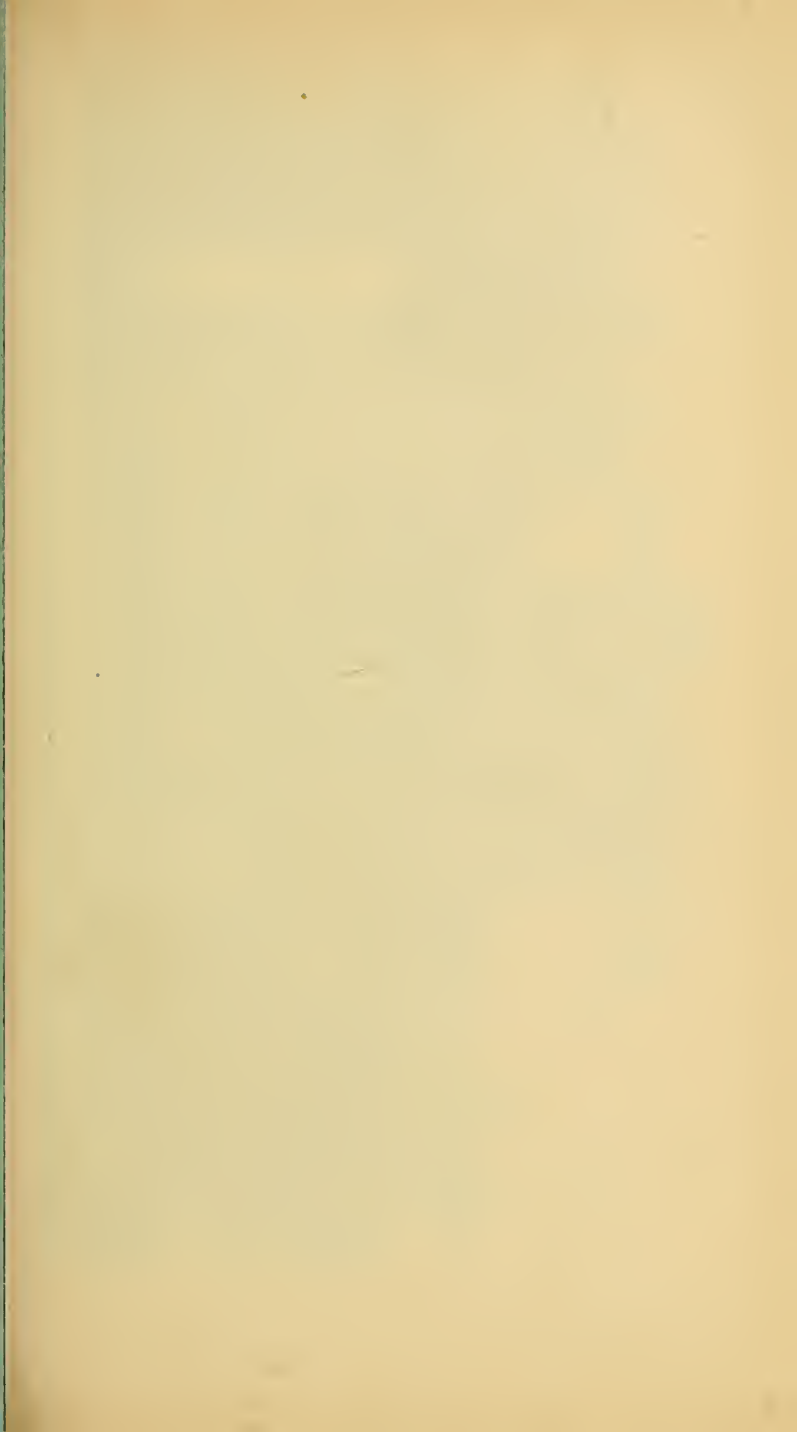


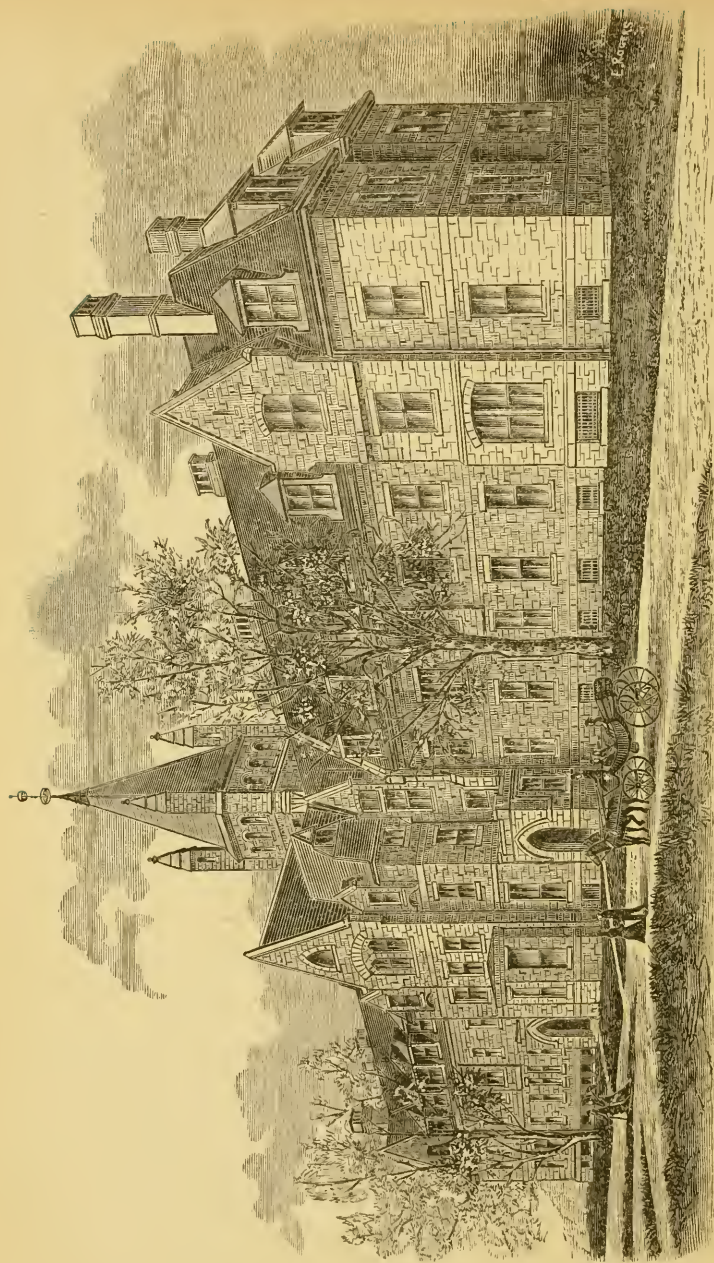
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OF  
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FOR THE  
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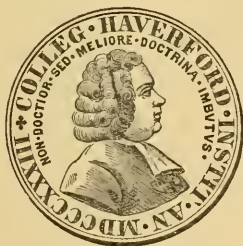
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# Corporation.

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## *Secretary.*

EDWARD BETTLE, JR.

## *Treasurer.*

DAVID SCULL, JR.,

125 Market Street, Philadelphia.

## MANAGERS.

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JOEL CADBURY,	CHARLES S. TAYLOR.

## *Secretary of the Board.*

EDWARD BETTLE, JR.

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## EXECUTIVE COMMITTEE.

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HUGH D. VAIL,	EDWARD L. SCULL,
JAMES WHITALL,	EDWARD BETTLE, JR.,
WILLIAM G. RHOADS.	



## Faculty and Officers of Instruction.

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THOMAS CHASE, A.M.,

PRESIDENT,

AND PROFESSOR OF PHILOLOGY AND LITERATURE.

SAMUEL ALSOP, JR., A.M.,

SUPERINTENDENT,

AND PROFESSOR OF PHYSICS AND ASTRONOMY.

JOHN H. DILLINGHAM, A.M.,

PROFESSOR OF MORAL AND POLITICAL SCIENCE.

PLINY E. CHASE, LL.D.,

PROFESSOR OF PHILOSOPHY AND LOGIC.

ISAAC SHARPLESS, S.B.,

PROFESSOR OF MATHEMATICS AND CHEMISTRY.

J. FRANKLIN DAVIS, A.B.,

ASSISTANT SUPERINTENDENT,

AND ASSISTANT PROFESSOR OF PHILOLOGY.

EDWARD D. COPE, A.M.,

LECTURER ON ZOOLOGY.

JOSEPH THOMAS, LL.D.,

LECTURER ON HISTORY.

## SENIOR CLASS.

## CLASSICAL SECTION.

Baily, Henry	Newport,	Pa.
Baily, Albert Lang	Philadelphia,	Pa.
Carey, Francis King	Baltimore,	Md.
Comfort, Edward Thomas	Germantown,	Pa.
Crosman, Charles Sumner	Lynn,	Mass.
Hill, Samuel H.	Minneapolis,	Minn.
Reynolds, Lindley M. H.	Bush Hill,	N. C.
Smiley, Daniel, Jr.	Vassalboro,	Me.
Taylor, Henry Longstreet	Cincinnati,	Ohio.
Thomas, J. M. Whitall	Baltimore,	Md.
White, George Wilson	Belvidere,	N. C.

## SCIENTIFIC SECTION.

Eldridge, Jonathan	Goshenville,	Pa.
Forsythe, Edward	Chadd's Ford,	Pa.
Frazier, Cyrus Piggott, A. B. (Trin. Coll., N. C.)	Bush Hill,	N. C.
Haines, Robert B., Jr.	Cheltenham,	Pa.
Stokes, Henry Newlin	Moorestown,	N. J.

## JUNIOR CLASS.

Beezley, James	Earlham,	Iowa.
Bispham, Samuel, Jr.	Philadelphia,	Pa.
Gibbons, Edward	Wilmington,	Del.
Gifford, John Henry	West Falmouth,	Mass.
Henderson, Francis	Germantown,	Pa.
Lowry, William C.	Philadelphia,	Pa.
Newkirk, John Bacon	Greenwich,	N. J.
Sheppard, John E.	Greenwich,	N. J.

## SOPHOMORE CLASS.

## CLASSICAL SECTION.

Brede, Charles Frederic	Salem,	Iowa.
Cope, Francis Hazen	Germantown,	Pa.
Cox, Charles Elwood	Lawrence,	Kan.
Edwards, Josiah Pennington	Spiceland,	Ind.
Lynch, James Lewis	Longwood,	Mo.
Mason, Samuel, Jr.	Germantown,	Pa.
Perry, William Francis	Wakefield,	R. I.
Rhoads, Joseph, Jr.	Wilmington,	Del.
Whitall, John M.	Germantown,	Pa.
White, Thomas Newby	Belvidere,	N. C.

## SCIENTIFIC SECTION.

Corbit, Alexander P.	Odessa,	Del.
Hill, Mahlon Patterson	Mt. Pleasant,	Ohio.
Updegraff, William Ross	Mt. Pleasant,	Ohio.

## FRESHMAN CLASS.

## CLASSICAL SECTION.

Blair, William Allen	High Point,	N. C.
Carey, A. Morris	Baltimore,	Md.
Chase, William Cromwell	Haverford College,	Pa.
Edwards, Levi Talbott	Spiceland,	Ind.
Hartshorne, Edward Yarnall	Philadelphia,	Pa.
Harvey, Lawson Monroe	Indianapolis,	Ind.
Johnson, Isaac Thorne	Wilmington,	Ohio.
Moore, Jesse Hollowell	Goldsboro',	N. C.
Price, Walter	Philadelphia,	Pa.
Whitall, Thomas Wistar	Germantown,	Pa.
Winslow, Thomas Newby	Belvidere,	N. C.
Winston, John Clark	Richmond,	Va.

## SCIENTIFIC SECTION.

Collins, William Henry	Poughkeepsie,	N. Y.
Cook, Joseph Horace	Philadelphia,	Pa.
Jenkins, Charles Williams	Germantown,	Pa.
Marshburn, William Valentine	Snow Camp,	N. C.
Phillips, John Lougeay	Pittsburg,	Pa.



## Calendar.

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College Year, 1877-78, began with the beginning of the Autumn Term, 1877	. 9th Mo. 5.
Winter Recess began	. . . 12th Mo. 20.
Winter Term began,* 1878	. . 1st Mo. 3.
Second Half-year begins	. . 1st Mo. 30.
Mid-year Examinations begin	. . 1st Mo. 30.
Oration before the Loganian Society	. 4th Mo. 9.
Junior Exercises	. . . 4th Mo. 10.
Spring Recess begins	. . . 4th Mo. 10.
Spring Term begins*	. . . 4th Mo. 24.
Public Meeting of the Loganian Society	6th Mo. 24.
Address before the Alumni	. . 6th Mo. 25.
Address to the Graduating Class	. 6th Mo. 26.
Commencement Day	. . . 6th Mo. 26.
Examinations for Admission	. . 6th Mo. 26.

### VACATION OF TEN WEEKS.

Examinations for Admission	. . 9th Mo. 3.
College Year, 1878-79, begins*	. . 9th Mo. 4
Winter Recess begins	. . . 12th Mo. 21.
Winter Term begins,* 1879	. . . 1st Mo. 6.
Spring Recess begins	. . . 4th Mo. 16.
Commencement Day, 1879	. . . 6th Mo. 25.

\* The first recitations are due promptly at *half past nine o'clock* at the beginning of each Term. No absences from them are excused, unless clearly unavoidable

## Requisites and Terms for Admission.

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CANDIDATES for admission to the Freshman Class in the Classical Course, will be examined as to their proficiency in the following requisites:—

*Classics.*—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in Latin and Greek Grammar, to be tested, in part, by writing easy sentences in Latin and Greek; acquaintance with Prosody, to be proved by scanning verses from Virgil; and ability to give, after an hour's study—with the aid of a Lexicon—a literal translation of a passage *not before read* by the candidate, both in Latin and Greek prose or verse, equal in amount to fifty hexameter lines, and to apply the proper rules of Syntax to the constructions in that passage.

Candidates are recommended to read the books of a preparatory course in Greek and Latin which are ordinarily prescribed in the requisitions for admission to American colleges; but this course may be varied at the discretion of teachers, provided the candidate is found to possess a sufficient knowledge of both languages to enable him to pursue, with facility and advantage, the studies of the Freshman year.

*Mathematics.*—Arithmetic, including the Metric System, Algebra, as far as Quadratic Equations, and some introductory knowledge in Geometry, gained from the first two books in Playfair's Euclid, or their equivalents.

*English.*—Spelling, Grammar, English Composition, Geography, and the History of the United States. (The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics.)



Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Classical Course, except in the Greek language.

Satisfactory examination-papers written under proper supervision at first-class schools, and forwarded to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a Degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission shall be given only to students of sufficient age, ability, and diligence to ensure their success.

Candidates found fully prepared for admission to the Freshman Class, and also in all the regular studies of the Freshman year, may be admitted to the Sophomore Class.

A rule of the Corporation directs that "The College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismissal in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to the President, THOMAS CHASE, Haverford College P. O., Montgomery Co., Pa. Candidates will present themselves at the College, for examination by the Faculty, *at 2 o'clock on Commence-*

*ment-day, or at 9 o'clock on the morning previous to the beginning of the college term at which they desire to enter.*

The price of Board and Tuition is \$425.00 per annum, payable one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students, who dine at the College, the annual charge is \$250.00.

## Courses of Instruction.

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### CLASSICAL COURSE.

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#### FRESHMAN CLASS.

1. *Scripture.* The Gospel according to John. 1 hour a week.
2. *Mathematics.* Euclid's Geometry.—Alsop's Algebra.—Loomis's Plane Trigonometry. 4 hours a week.
3. *Greek.* Selections from Greek Historians.—Homer.—Review of Greek Grammar.—Exercises in writing Greek. 3 hours a week.
4. *Latin.* Livy (Chase).—Horace (Chase).—Review of Latin Grammar.—Exercises in writing Latin. 4 hours a week.
5. *English Literature.* Cleveland's Compendium.—Hart's Rhetoric.—Compositions.
6. *History.* Smith's History of Greece.—Liddell's History of Rome.
7. *Physical Geography.* Guyot's Earth and Man.
8. *Zoology.* Tenney's.
9. *Botany.* Wood or Gray. Subjects 5, 6, 7, 8, and 9, 4 hours a week.
10. *Drawing.* White's Art Studies. 1 hour a week.

## SOPHOMORE CLASS.

1. *Scripture.* English New Testament. 1 hour a week.
2. *Mathematics.* Loomis's Trigonometry and Surveying, with Field Practice.—Loomis's Spherical Trigonometry. 3 hours a week.
3. *Greek.* The Iliad or Odyssey of Homer.—Plato's Apology and Crito.—The Prometheus of Æschylus.—Exercises in writing Greek. 3 hours a week.
4. *Latin.* Horace (Chase).—The Germania and Agricola of Tacitus.—Exercises in writing Latin. 3 hours a week the first half year, 2 hours the second.
5. *Ethics and Christian Evidences.* Dymond's Essays on Morality.—Paley's Evidences of Christianity.
6. *Political Economy.* Wayland and Thompson.
7. *History.* Liddell's History of Rome.—Modern History. Subjects 5, 6, and 7, 3 hours a week.
8. *Physics.* Norton's Natural Philosophy.—Lectures. 3 hours a week the first half year.
9. *Chemistry.* Eliot and Storer's Chemistry.—Lectures. 3 hours a week the second half year.
10. *Geology.* Dana's Text-book. 1 hour a week the second half year.
11. *Drawing.* White's Art Studies. 1 hour a week.

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JUNIOR CLASS.

## REQUIRED STUDIES.

1. *Scripture.* Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). 1 hour a week.
2. *Mathematics.* Loomis's Analytical Geometry. 3 hours a week the first half year.

3. *Astronomy.* Descriptive Astronomy (Herschel and Loomis). 3 hours a week the second half year.
4. *Greek.* Thucydides.—The Antigone of Sophocles.—Exercises in writing Greek. 2 hours a week.
5. *Latin.* Cicero's Tusculan Disputations and Somnium Scipionis (Chase).—The Captives of Plautus—Chase's Selections from Juvenal.—Exercises in writing Latin. 2 hours a week.
6. *French.* Knapp's Grammar.—Fénelon's *Télémaque*.—*Histoire de Charles XII.*—Exercises. 2 hours a week. (Students sufficiently advanced may recite in French with the Senior Class.)
7. *Geology.* Dana's Text-book (finished).
8. *Rhetoric.* Whately's Rhetoric.
9. *Logic.* Whately and Hamilton.
10. *Psychology.* Haven's Mental Philosophy (begun). Subjects 7 to 10, 2 hours a week the first half year, 3 hours the second.
11. *Political Science.* Kent's Commentaries on the Law of Nations, and American and Municipal Law.—Constitution of the United States.—Forensics.
12. *Anglo-Saxon.* Subjects 11 and 12, 2 hours a week the first half year, 1 hour the second.
13. *Elocution.* Rehearsals for Public Exhibition.

## ELECTIVE STUDIES.

(Two hours a week to be selected.)

1. *Descriptive Geometry and Perspective.* 2 hours a week.
2. *Chemistry.* Qualitative Analysis.—Laboratory Practice. 2 hours a week the first half year.
3. *Mathematics.* Loomis's Differential and Integral Calculus. 2 hours a week the second half year.
4. *German.* Whitney's Grammar, Exercises, and Reader. 2 hours a week the second half year.

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *Scripture*. Greek Testament continued. *1 hour a week*.
2. *Latin; and Classical Literature*. Cicero's Letters.—Pliny's Letters.—The Ancient Pronunciation of Latin.—Latin Compositions.—History of the Literatures of Greece and Rome. *Two hours a week*.
3. *German*. Whitney's Grammar, Reader, and Exercises. (Required, in lieu of one of the elective studies, of those members only of the Senior Class who have not previously studied German.) *2 hours a week the second half year*.
4. *Psychology*. Haven continued.—Porter's Human Intellect.—Lectures.
5. *Philology*. Whitney's Science of Language. Subjects 4 and 5, *3 hours a week the first half year*.
6. *Natural and Revealed Religion*. Butler's Analogy.
7. *Christian Doctrines*. Barclay and Gurney.
8. *English*. March's Philological Study, or an equivalent.—Themes. Subjects 6, 7, and 8, *2 hours a week*.
9. *History*. Hallam's Constitutional History of England.—Guizot's History of Modern Civilization.—Arnold's Lectures on Modern History. *2 hours a week*.
10. *Anatomy, Physiology, and Hygiene*. *3 hours a week the second half year*.
11. *Elocution and Composition*. A Public Oration at Commencement.

## ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Mechanics*. Peck's Mechanics. *2 hours a week*.
2. *Physics*. Acoustics.—Optics.—Heat and its Applications.—Electricity. *2 hours a week*.
3. *Astronomy, etc*. Loomis's Practical Astronomy, with

Practice in the Observatory.—Meteorology. 2 hours a week.

4. *Classical Philology and Greek.* Demosthenes on the Crown, or an Equivalent.—Greek Lyric Poets.—Greek Composition.—Papillon's Greek and Latin Inflections.—Peile's Greek and Latin Etymology, with Curtius, Vanček, and Corssen, for reference.—Curtius's and Roby's Grammars, for reference.—Inscriptions. 2 hours a week.
5. *Psychology.* Jouffroy.—Berkeley.—Porter (continued). 2 hours a week the second half year.
6. *French.* Sainte-Beuve or Taine.—Racine.—Sauveur's *Entretiens sur la Grammaire*.—Exercises. 3 hours a week, counting as two hours.
7. *German.* Der Neffe als Onkel.—Schiller's *Wilhelm Tell*.—Review of the Grammar.—Exercises. 2 hours a week. (Advanced German, or French, may be dropped in the second half year by students who wish to take Calculus in place of either of them.)
8. *Differential and Integral Calculus.* 2 hours a week the second half year.

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## SCIENTIFIC COURSE.

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### FRESHMAN CLASS.

1. *Scripture.* The Gospel according to John. 1 hour a week.
2. *Mathematics.* Euclid's Geometry —Alsop's Algebra.—Loomis's Plane Trigonometry. 4 hours a week.
3. *Latin.* Livy (Chase).—Horace (Chase).—Review of Latin Grammar —Exercises in writing Latin. 4 hours a week.

4. *English Literature.* Cleveland's Compendium — Hart's Rhetoric.—Compositions.
  5. *History.* Greek and Roman History. Subjects 4 and 5, 2 hours a week.
  6. *Physics.* Norton's Natural Philosophy — Lectures. 3 hours a week the first half year.
  7. *Chemistry.* Eliot and Storer.—Lectures. 3 hours a week the second half year.
  8. *Physical Geography.* Guyot's Earth and Man.
  9. *Zoology.* Tenney's.
  10. *Botany.* Wood or Gray. Subjects 8, 9, and 10, 2 hours a week.
  11. *Drawing.* White's Art Studies. 1 hour a week.
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#### SOPHOMORE CLASS.

1. *Scripture.* The New Testament. 1 hour a week.
2. *Mathematics.* Loomis's Trigonometry and Surveying, with Field Practice.—Loomis's Spherical Trigonometry. 3 hours a week.
3. *Descriptive Astronomy.* Herschel and Loomis. 3 hours a week the second half year.
4. *French.* Knapp's Grammar.—Fénelon's *Télémaque*.—*Histoire de Charles XII*—Exercises. 2 hours a week. (Students sufficiently advanced may recite in French with the Junior Class )
5. *Ethics and Christian Evidences.* Dymond's Essays on Morality.—Paley's Evidences of Christianity.
6. *Political Economy.* Wayland and Thompson.
7. *History.* History of Rome.—Modern History.—Subjects 5, 6, and 7, 3 hours a week.
8. *Chemistry* Cooke's Chemical Philosophy.—Qualitative Analysis.—Laboratory Practice. 2 hours a week.
9. *Physics.* Tyndall on Heat. 2 hours a week the first half year.



10. *Geology*. Dana's Text-book. 1 hour a week the second half year.
11. *Natural History, etc.* Advanced Zoology. 2 hours a week the first half year.
12. *Drawing*. Mechanical Drawing. 2 hours a week.

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### JUNIOR CLASS.

#### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible; or the Greek Testament (for students having a sufficient knowledge of Greek). 1 hour a week.
2. *Mathematics*. Loomis's Analytical Geometry.—Differential and Integral Calculus. 3 hours a week.
3. *Descriptive Geometry and Drawing*. Isometric Projection and Perspective. 2 hours a week.
4. *French*. Sainte-Beuve or Taine.—Racine.—Sauveur's *Entretiens sur la Grammaire*.—Exercises. 3 hours a week, counting as two hours.
5. *German*. Whitney's Grammar, Exercises, and Reader. 2 hours a week the second half year.
6. *Geology*. Dana's Text-book (finished).
7. *Rhetoric*. Whately's Rhetoric.
8. *Logic*. Whately and Hamilton.
9. *Psychology*. Haven's Mental Philosophy (begun). Subjects 6 to 9, 2 hours a week the first half year, 3 hours the second.
10. *Political Science*. Kent's Commentaries on the Law of Nations, and American and Municipal Law.—Constitution of the United States.—Forensics.
11. *Anglo-Saxon*. Subjects 10 and 11, 2 hours a week the first half year, 1 hour the second.
12. *Physics*. Acoustics.—Optics.—Heat and its Applications.—Electricity. 2 hours a week.
13. *Elocution*. Rehearsals for Public Exhibition.

## ELECTIVE STUDIES.

*(One study to be selected.)*

1. *Advanced Geology, and Mineralogy.* Lyell.—Dana.  
2 hours a week the first half year.
2. *Elementary Greek.* Grammar and Reader.—Scientific  
Nomenclature. 2 hours a week the first half year.
3. *Latin.* Cicero's Tusculan Disputations, etc. 2 hours  
a week the first half year.

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible, or Greek  
Testament. 1 hour a week.
2. *Mathematics.* Analytical Mechanics. 2 hours a week.
3. *Astronomy, etc.* Loomis's Practical Astronomy, with  
practice in the Observatory.—Meteorology. 2 hours  
a week.
4. *German.* Der Neffe als Onkel.—Schiller's Wilhelm  
Tell.—Review of the Grammar.—Exercises. 2 hours  
a week.
5. *Psychology.* Haven (continued).—Porter's Human In-  
tellect.—Lectures.
6. *Philology.* Whitney's Science of Language. Subjects  
5 and 6, 3 hours a week the first half year.
7. *Natural and Revealed Religion.* Butler's Analogy.
8. *Christian Doctrines.* Barclay and Gurney.
9. *English.* March's Philological Study.—Themes.
10. *History.* Guizot's History of Modern Civilization —  
Arnold's Lectures on Modern History. Subjects 7,  
8, 9, and 10, 2 hours a week.
11. *Anatomy, Physiology, and Hygiene.* 3 hours a week  
the second half year.
12. *Composition and Elocution.* A Public Oration at  
Commencement.

## ELECTIVE STUDIES.

(Two studies to be selected)

1. *Mathematics.* Determinants.—Theory of Equations.—Quaternions. 2 hours a week.
2. *Experimental Physics.* 2 hours a week.
3. *Applied Mechanics and Constructive Engineering.* 2 hours a week.
4. *Psychology.* Jouffroy.—Berkeley.—Porter (continued).—Lectures. 2 hours a week the second half year.
5. *Greek.* Homer—History of Greek Literature. 2 hours a week.
6. *English Constitutional History.* Hallam. 2 hours a week the first half year.

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## Lectures.

THE Courses of Lectures for the year 1877-78 are as follows:—

## TO THE WHOLE COLLEGE.

<i>Man</i> . . . . .	PROFESSOR P. E. CHASE.
<i>International Law and Christianity</i> . . . . .	} PROF. DILLINGHAM.
<i>The Spectroscope and its Applications</i> . . . . .	
<i>English Literature.</i> . . . .	PRESIDENT CHASE.
<i>Phonology</i> . . . . .	PROFESSOR DAVIS.

## TO THE SENIOR CLASS.

<i>Philosophical Principles</i> . .	PROFESSOR P. E. CHASE.
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## TO THE JUNIOR CLASS.

<i>Inductive and Deductive Logic</i>	PROFESSOR P. E. CHASE.
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## TO THE SOPHOMORE CLASS.

<i>Natural Philosophy</i> . . . .	PROFESSOR ALSOP.
<i>Chemistry</i> . . . . .	PROFESSOR SHARPLESS.

## Examinations.

IN determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are private examinations of each class, in writing, in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts or that of Bachelor of Science. The examinations are conducted upon the following plan:—

The members of the class under examination are seated in a room by themselves, under the supervision of an officer, and a set of questions is furnished them upon some book or subject in the course, which each student is required to answer in writing, without consulting any person or book. The time of writing, for the examination in each book, is limited to three hours. The questions are upon topics and passages selected throughout the text-books, or upon matters which have been clearly illustrated in the teacher's instructions, and are calculated to test as accurately as possible the student's knowledge of the whole subject. Neatness of penmanship, *orthography*, grammar, and style of expression receive due weight in the estimation of the value of the answers.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. *But no student is entitled to such advancement, whatever his numbers or rank, unless, in the private judgment of all his instructors and caretakers, he has been faithful in his daily studies, and satisfactory in his character and conduct.*

The *viva voce* examinations are made in the daily recitations. Each recitation during the course is marked on a scale in which ten indicates the highest excellence. From the aggregate of marks received for recitations, themes, etc., deductions are made for irregularities and misdemeanors; and the sum of credit marks remaining, reduced to an average on the scale of ten, is combined with the average obtained in the written examinations, to determine a student's rank.

*Special* written examinations are occasionally held, to test the proficiency of students.

## Degree of Master.

BACHELORS OF ARTS of three years' standing may take the degree of Master of Arts, and BACHELORS OF SCIENCE of three years' standing may take the degree of Master of Science, on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an Examination on some literary or scientific Course of Study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the Examination are considered by both Boards, and must exhibit sufficient research, thought, and ability, to attest substantial desert on the part of the applicant.

The following are stated as adequate Courses of Study to be presented by candidates for the Second Degree:—

- I. The Pauline Epistles in Greek (with Winer's or Buttmann's N. T. Grammar, Grimm's Lexicon, and Scrivener's Introduction).
- II. The whole of Thucydides.
- III. Seven Tragedies of Æschylus, Sophocles, or Euripides.
- IV. Cicero's Tusculan Disputations (five books), De Natura Deorum, and De Officiis.
- V. The whole of Tacitus.
- VI. Schiller's History of the Thirty Years' War, and Wallenstein (all the parts), in the original German.
- VII. The Nicomachean Ethics of Aristotle (in the original), and Jouffroy's Introduction to Ethics.
- VIII. The History and Principles of Moral Science, and the Ethics of Christianity.
- IX. Thermodynamics.
- X. Theoretical Astronomy (Watson and Gauss).
- XI. Rankine's Applied Mechanics, or Rankine's Civil Engineering.
- XII. Freeman's History of the Norman Conquest, Green's larger

History of England, and Hallam's and May's Constitutional Histories.

XIII. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Leo Meyer).

Notice of application for examination must be given two months before Commencement. The examinations will be held the first week in the Sixth month. The fee for the Diploma is Twenty Dollars, to be paid, in all cases, before Commencement-day.

In lieu of examinations, Theses (if sufficiently elaborate and well-studied) may be received until 1879.

Candidates who are examined may also (if they desire) hand in Dissertations on topics, in their field of study, which they have elaborately investigated.

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## Alumni Prize for Composition and Oratory.

THE Association of the Alumni, in the year 1875, instituted an ANNUAL PRIZE of a Gold Medal for excellence in Composition and Oratory. The competition is confined to members of the Senior and Junior Classes, and is made on the last sixth-day of the Fifth month, before judges appointed by a committee of the Alumni. The successful competitor will deliver his oration publicly on the evening of Alumni Day, the President of the Association handing him the Prize.

The rules of the Association provide that no oration shall occupy in delivery more than fifteen minutes. It is understood also that, "while due regard is given to the subject-matter of the oration, the judges, in making their award, are to consider the prize as offered to encourage more especially the attainment of excellence in elocution."

The prize was awarded last year to FRANCIS KING CAREY, of the class of 1878, for his oration on "The Future of a Great Experiment."

## Alumni Prize

### FOR AN ESSAY SUGGESTING IMPROVED METHODS IN INTERNATIONAL LAW.

The Association of the Alumni offers a prize of \$250, or £50, for the best Essay setting forth "*The most Practicable Plan for Promoting the Speedy Substitution of Judicial, for Violent Methods of Settling International Disputes.*"

The Essays, each accompanied by a sealed envelope containing the name and address of the author, are to be submitted before the end of the year 1878, to the Adjudicators, who will report the result of their adjudication at the Annual Meeting of the Alumni, occurring in the ensuing summer.

The Essays must not exceed in length 100 pages of 300 words each. Those written in any other language must be translated into English before presentation, and both the original and the translation presented to the Committee.

The Association reserves the privilege of retaining all the Essays that compete for the prize. Essays may be forwarded to any member of the following Committee of Adjudicators: Francis T. King, 76 Cathedral St., Baltimore, Md.; James Whitall, 410 Race St., Philadelphia, Penna.; John B. Garrett, 131 N. 18th St., Philadelphia, Penna.

## Library.

LIBRARIAN, Prof. SAMUEL ALSOP, Jr.; COMMITTEE in charge of the Library, Richard Wood, *Chairman*; Benjamin V. Marsh, Philip C. Garrett, Charles Roberts, Edward Bettie, Jr., Edward L. Scull.

THE number of bound volumes in the Library Hall, accessible to the members of the College, is 11,025. Of these, the LIBRARY OF HAVERFORD COLLEGE contains 7410 volumes; that of the LOGANIAN SOCIETY 2315; those of other



societies 1300. Numerous American and European periodicals, scientific and literary, are taken by the Library.

By contributions of friends of the College, a fund of ten thousand dollars has been established, the income of which is devoted to the increase of the Library.

The College possesses—a gift from Friends in England—a copy of the imperial edition of the *CODEx SINAITICUS*, published by the Emperor of Russia, and Woidé's edition of the *CODEx ALEXANDRINUS*. To these have been added, by donation and purchase, the Roman edition of the *CODEx VATICANUS*, and Tischendorf's edition of the same *CODEx*. The Library thus contains copies, nearly in facsimile, of the most ancient known manuscript-authorities for the genuine text of the New Testament.

Fine copies of Walton's Polyglot and Castell's Lexicon were presented in 1876 by J. Bevan Braithwaite.

An excellent cast of the *ROSETTA STONE*, with its tri-lingual inscription, is among our palæographic treasures.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves are freely consulted.

A *CARD CATALOGUE* of the College and the Society Libraries has recently been made, and is of great service in showing at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

## Museum, Laboratories, and Apparatus.

The large *MINERALOGICAL COLLECTION* of the late Dr. Troost, contains about 2700 specimens. The *GEOLOGICAL CABINET* comprises about 2500 specimens, and contains complete suits illustrating the Geology of New York and South Carolina, prepared for the College by the late Lardner Vanuxem.

A valuable set of clastic models made by Anzoux, of Paris, admirably exhibiting, by dissection, the actual appearance and anatomy of the minute, as well as the larger, organs of the



entire human body, and of other interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY; also, a collection of plaster models of FOSSIL SPECIES in Natural History, made by Professor Ward, of Rochester, have been presented to the College by Richard Wood

Arrangements will soon be made for the display of these various collections in the MUSEUM OF NATURAL HISTORY, in such a manner as to facilitate the study of them.

Extensive APPARATUS is furnished for the illustration of Natural Philosophy and Chemistry, and important additions to it are now making.

Improved accommodations will be furnished within the present year for the CHEMICAL and PHYSICAL LABORATORIES.

## Astronomical Observatory.

THE HAVERFORD OBSERVATORY affords the students in the higher classes the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains an Equatorial Telescope, mounted in the Fraunhofer style, with an object-glass of  $8\frac{1}{4}$  inches aperture, and a focal length of 11 feet, and furnished with an annular micrometer, with six eye-pieces, varying in magnifying power from 60 to 900 times; a Meridian Transit Circle, of the German form, having a Telescope of 4 inches aperture, and 5 feet focus, with a circle at each end of the axis 26 inches in diameter—one reading by four verniers to two seconds of arc, the other used simply as a finder; a Prime Vertical Transit; a Solar Clock; a Sidereal Clock, with the mercurial compensation; and Bond's Magnetic Chronograph, for the instantaneous recording of observations.

The latitude of the Observatory is  $40^{\circ} 0' 36''.5$  N.; its longitude,  $5^h 1^m 12^{sec}.75$  W. from Greenwich.

## Societies.

THE LOGANIAN SOCIETY was established by the Officers and Students in 1834. The exercises in its weekly meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN," monthly. It has in its possession a carefully selected Library of 2315 volumes, and cabinets of conchology, geology, natural history, medals, and coins. A large GYMNASIUM, also, is under its direction, and a CARPENTER'S SHOP belongs to the Society.

THE ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 1300 volumes.

## Situation of the College.

THE College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County, Pa.* The buildings are situated on a lawn of upwards of sixty acres, tastefully laid out, and adorned with a great variety of trees and shrubbery. The grounds of the College comprise excellent fields for cricket and base-ball.

The Old College Hall was built in the years 1832-33; the Astronomical Observatory in 1852; the Chemical Laboratory and Gymnasium in 1853; the Alumni Hall and Library in 1863-64; and Barclay Hall in 1876-77. BARCLAY HALL is a beautiful edifice of granite, 220 by 40 feet, containing private studies and dormitories for about eighty students. It is furnished with the best modern conveniences, and with everything calculated to make it a healthful, comfortable, and

agreeable residence. The dining-room, recitation-rooms, and Museum are in the Old College.

## Instruction and Discipline.

THE Courses of Instruction at Haverford, aiming at thorough and generous training, retain the standard studies proved by long experience to be most fruitful in mental culture, but give them no undue preponderance, and add to them those scientific and practical studies which have risen into prominence in recent times. Both courses are designed to give a broad, as well as thorough culture, so that the Baccalaureate degrees, whether in Arts or Science, may attest a comprehensive and truly liberal education.

As the students form one household, their Religious Instruction is carefully provided for. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, Barclay's Apology, and Gurney's Observations, form part of the regular course of study.

In the Discipline of the College, the Officers endeavor to promote habits of order and regularity. Such restraints only are imposed as are deemed necessary to attain this end, or to secure the students from those temptations which are incident to their situation, removed as they are from the protection and preserving influences of home. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and, above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.

## DEGREES GRANTED IN 1877.

At the Commencement in 1877, Degrees were granted, in course, to the following graduates:—

### BACHELORS OF ARTS.

ISAAC W. ANDERSON,  
FREDERIC LANG BAILY,  
ISAAC FORSYTHE,  
JAMES DELAPLAINE KRIDER,  
GEORGE GLUYAS MERCER, LL.B.,  
WILSON TOWNSEND.

### BACHELOR OF SCIENCE.

WILLIAM FOULKE SMITH.

### MASTERS OF ARTS.

JAMES CAREY THOMAS, M.D. (Class of 1851).  
HENRY COPE (Class of 1869).  
CHARLES EDWARD PRATT (Class of 1870).  
MARMADUKE COPE KIMBER (Class of 1872).

The Honorary Degree of Master of Arts was conferred upon

JOHN J. THOMAS, M.D.





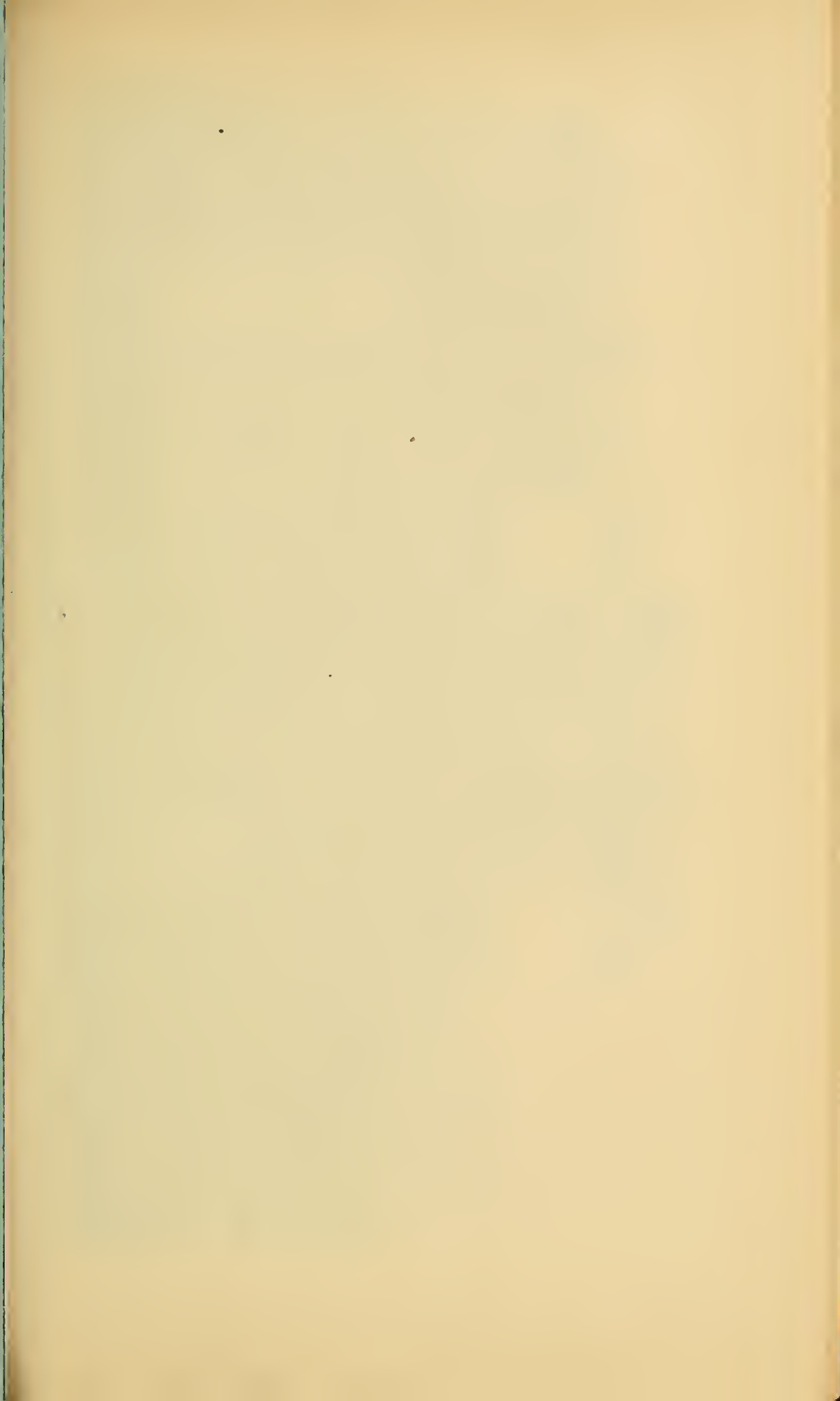
A  
CATALOGUE  
OF THE  
*Officers and Students*  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1878-79.

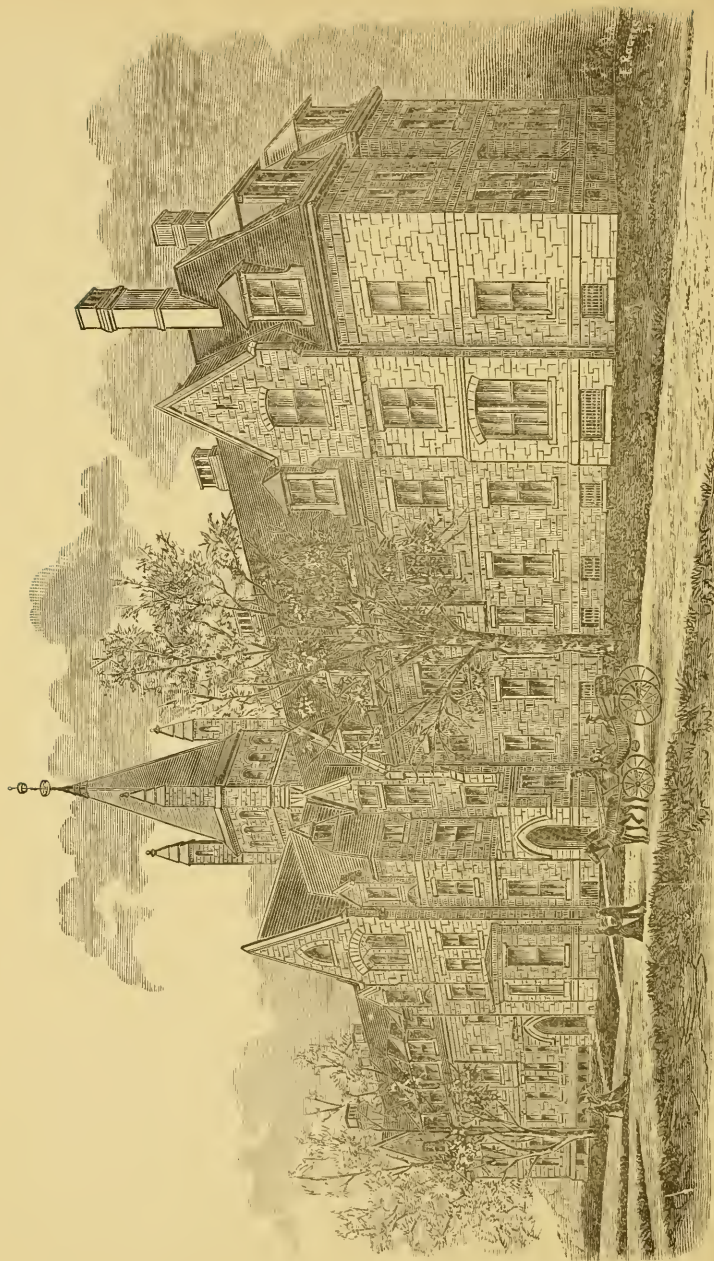


PHILADELPHIA:  
COLLINS, PRINTER, 705 JAYNE STREET.  
1879.

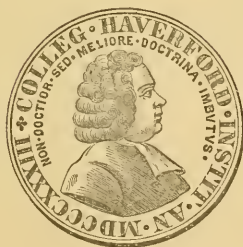








A  
CATALOGUE  
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FOR THE  
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1878-79.



PHILADELPHIA:  
COLLINS, PRINTER, 705 JAYNE STREET.  
1879.

# Corporation.

---

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EDWARD BETTLE, JR.

*Treasurer.*

DAVID SCULL, JR.,  
125 Market Street, Philadelphia.

**MANAGERS.**

WISTAR MORRIS,	RICHARD WOOD,
T. WISTAR BROWN,	ROBERT B. HAINES,
JOSEPH W. TAYLOR,	FRANCIS T. KING,
JAMES WHITALL,	WILLIAM R. THURSTON,
HUGH D. VAIL,	GEORGE HOWLAND, JR.,
JAMES CAREY THOMAS,	CHARLES HARTSHORNE,
BENJAMIN V. MARSH,	WILLIAM G. RHOADS,
PHILIP C. GARRETT,	JOHN B. GARRETT,
WILLIAM C. LONGSTRETH,	EDWARD BETTLE, JR.,
JAMES E. RHOADS,	CHARLES ROBERTS,
RICHARD CADBURY,	EDWARD L. SCULL,
DAVID SCULL, JR.,	CHARLES S. TAYLOR,
JOEL CADBURY,	FRANCIS WHITE.

*Secretary of the Board.*

EDWARD BETTLE, JR.

---

**EXECUTIVE COMMITTEE.**

JOSEPH W. TAYLOR,	EDWARD L. SCULL,
JAMES WHITALL,	EDWARD BETTLE, JR.,
HUGH D. VAIL,	WILLIAM G. RHOADS,
DAVID SCULL, JR.,	RICHARD CADBURY.

## Faculty.

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THOMAS CHASE, LL.D.,

PRESIDENT.

Office, Barclay Hall, No. 58.

NEREUS MENDENHALL, M.D.,

SUPERINTENDENT.\*

Office, Barclay Hall.

ALLEN C. THOMAS, A.B.,

PREFECT.

Office, Founders' Hall, No. 74.

---

THOMAS CHASE, LL.D.,

PROFESSOR OF PHILOLOGY AND LITERATURE.

PLINY E. CHASE, LL.D.,

PROFESSOR OF PHILOSOPHY AND LOGIC.

ISAAC SHARPLESS, S.B.,

PROFESSOR OF MATHEMATICS AND CHEMISTRY.

NEREUS MENDENHALL, M.D.,

PROFESSOR OF MORAL SCIENCE AND ASTRONOMY.

ALLEN C. THOMAS, A.B.,

PROFESSOR OF RHETORIC AND POLITICAL SCIENCE.

J. FRANKLIN DAVIS, A.B.,

ASSISTANT SUPERINTENDENT, AND ASSISTANT PROFESSOR OF PHILOLOGY.

EDWARD D. COPE, A.M.,

LECTURER ON ZOOLOGY.

JOSEPH THOMAS, LL.D.,

LECTURER ON HISTORY.

\* Samuel Alsop, Jr. was Superintendent and Professor of Physics and Astronomy until Eleventh month 13th, 1878.

## SENIOR CLASS.

Bispham, Samuel, Jr.	Philadelphia, Pa.
Gibbons, Edward	Wilmington, Del.
Gifford, John Henry	West Falmouth, Mass.
Henderson, Francis	Germantown, Pa.
Lowry, William C.	Philadelphia, Pa.
Newkirk, John Bacon	Greenwich, N. J.
Sheppard, John E., Jr.	Greenwich, N. J.

## JUNIOR CLASS.

## CLASSICAL SECTION.

Brede, Charles Frederic	Salem,	Iowa
Cope, Francis Hazen	Germantown,	Pa.
Cox, Charles Elwood	Lawrence,	Kan.
Edwards, Josiah Pennington	Spiceland,	Ind.
Lynch, James Lewis	Longwood,	Mo.
Mason, Samuel, Jr.	Germantown,	Pa.
Perry, William Francis	Wakefield,	R. I.
Rhoads, Joseph, Jr.	Wilmington,	Del.
Townsend, Clayton William, M.D.	Ashley,	Ohio.
Whitall, John M.	Germantown,	Pa.

## SCIENTIFIC SECTION.

Bishop, William	Columbus,	N. J.
Corbit, Alexander P.	Odessa,	Del.
Gause, Charles Edward, Jr.	Plainfield,	N. J.
Jones, Edward Magarge	Germantown,	Pa.

## SOPHOMORE CLASS:

## CLASSICAL SECTION.

Blair, William Allen	High Point,	N. C.
Carey, A. Morris	Baltimore,	Md.
Chase, William Cromwell	Haverford College,	Pa.
Davis, George Frederick	Adamsville,	R. I.
Edwards, Levi Talbott	Spiceland,	Ind.
Hartshorne, Edward Yarnall	Philadelphia,	Pa.
Johnson, Isaac Thorne	Wilmington,	Ohio.
Kennard, Edwin Orson	Knightstown,	Ind.
Moore, Jesse Hollowell	Goldsboro',	N. C.
Page, William Enoch	Peabody,	Mass.
Price, Walter Ferris	Philadelphia,	Pa.
Sutton, Isaac	Providence,	R. I.
Winslow, Thomas Newby	Belvidere,	N. C.
Winston, John Clark	Richmond,	Va.

## SCIENTIFIC SECTION.

Collins, William Henry	Poughkeepsie,	N. Y.
Cook, Joseph Horace	Philadelphia,	Pa.
Hadley, Walter Carpenter	Chicago,	Ills.
Hussey, George Frederick	Peekskill,	N. Y.
Phillips, John Longeay	Pittsburg,	Pa.
Shipley, Walter Penn	Germantown,	Pa.
Smith, Albanus Longstreth	Hestonville, Phila.	Pa.
Vail, George Requa	Los Angeles,	Cal.



## FRESHMAN CLASS.

## CLASSICAL SECTION.

Cox, Isaac Milton	Lawrence,	Kan.
Hazard, Richard Bowne	North Ferrisburgh,	Vt.
Jones, Wilmot Rufus	South China,	Me.
Morgan, Jesse Henley	Oskaloosa,	Iowa.
Randolph, Edward	Philadelphia,	Pa.
Robinson, William Henry	South Windham,	Me.
Shoemaker, Samuel Bines	Germantown,	Pa.
Thomas, Henry M.	Baltimore,	Md.

## SCIENTIFIC SECTION.

Coffin, John Elihu,	Fairmount,	Kan.
Corbit, Daniel	Odessa,	Del.
Crosman, George Loring	Swampscott,	Mass.
Palmer, Thomas Chalkley, Jr.	Media,	Pa.
Winston, Lindley Murray	Richmond,	Va.
Craig, Andrew Catherwood, Jr.	Philadelphia,	Pa.

## SUMMARY.

[illegible]

## Calendar.

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College Year, 1878-79, began with the beginning of the Autumn Term, 1878 . . . . .	9th Mo. 4.
Winter Recess began . . . . .	12th Mo. 21.
Winter Term began,* 1879 . . . . .	1st Mo. 6.
Second Half-year began . . . . .	1st Mo. 27.
Mid-year Examinations began . . . . .	1st Mo. 18.
Oration before the Loganian Society . . . . .	4th Mo. 15.
Junior Exercises . . . . .	4th Mo. 16.
Spring Recess begins . . . . .	4th Mo. 16.
Spring Term begins* . . . . .	4th Mo. 30.
Public Orations for the Prize . . . . .	5th Mo. 30.
Public Meeting of the Loganian Society . . . . .	6th Mo. 23.
Address before the Alumni . . . . .	6th Mo. 24.
Address to the Graduating Class . . . . .	6th Mo. 25.
Commencement Day, 1879 . . . . .	6th Mo. 25.
Examinations for Admission . . . . .	6th Mo. 25.

### VACATION OF TEN WEEKS.

Examinations for Admission . . . . .	9th Mo. 2.
College Year, 1879-80, begins* . . . . .	9th Mo. 3.
Winter Recess begins . . . . .	12th Mo. 23.
Winter Term begins,* 1880 . . . . .	1st Mo. 6.
Second Half-year begins . . . . .	2d Mo. 2.
Spring Recess begins . . . . .	4th Mo. 14.
Commencement Day, 1880 . . . . .	6th Mo. 30.

\* The first recitations are due promptly at *five minutes past nine o'clock* at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

## Requisites and Terms for Admission.

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CANDIDATES for admission to the Freshman Class in the CLASSICAL COURSE, will be examined as to their proficiency in the following requisites:—

*Classics.*—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in *Latin* and *Greek Grammar*, to be tested, in part, by writing easy sentences in Latin and Greek; acquaintance with Prosody, to be proved by *scanning verses* from Virgil; and ability to give, after an hour's study—with the aid of a Lexicon—a literal *translation of a passage not before read* by the candidate, both in Latin and Greek prose or verse, equal in amount to fifty hexameter lines, and to apply the proper rules of Syntax to the constructions in that passage.

Candidates are recommended to read the books of a preparatory course in Greek and Latin which are ordinarily prescribed in the requisitions for admission to American colleges; but this course may be varied at the discretion of teachers, the object being simply that the candidate shall possess a sufficient knowledge of both languages to enable him to pursue, with facility and advantage, the studies of the Freshman year.

*Mathematics.*—*Arithmetic*, including the *Metric System*, *Algebra*, as far as Quadratic Equations. Some introductory knowledge in *Geometry*, gained from the first two books in Playfair's *Euclid*, or their equivalents, is also desirable.

*English.*—*Spelling*, *Grammar*, *English Composition*, *Geography*, and the *History of the United States*. (The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics.)

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Classical Course, except in the Greek language, and will also be examined (after 1879) in Balfour Stewart's *Primer of Physics* and Gray's "*How Plants Grow*," or equivalents.

Satisfactory examination-papers written under proper supervision at first-class schools, and forwarded to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a Degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission shall be given only to students of sufficient age, ability, and diligence to ensure their success.

Candidates may be admitted to Advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and thoroughly fitted also in *all* the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that "The College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismissal in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to President THOMAS CHASE, LL.D., Haverford College P. O., Montgomery Co., Pa. Candidates will present themselves at

Founders' Hall, for examination by the Faculty, *at 2 o'clock on Commencement-day, or at 9 o'clock on the morning previous to the beginning of the college term at which they desire to enter.*

The price of Board and Tuition is \$425.00 per annum, payable to the Prefect, one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students, who dine at the College, the annual charge is \$250.00.

For further information, and for circulars or catalogues, address Professor ALLEN C. THOMAS, Haverford College, Montgomery Co., Pa.

## Courses of Instruction.

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### CLASSICAL COURSE.

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#### FRESHMAN CLASS.

1. *Scripture.* The Gospel according to John. *One hour a week.*
2. *Mathematics.* Euclid's Geometry.—Alsop's Algebra.—Loomis's Plane Trigonometry. *Four hours a week.*
3. *Greek.* Selections from Greek Historians.—Homer.—Review of Greek Grammar.—Exercises in writing Greek. *Three hours a week.*
4. *Latin.* Livy (Chase).—Horace (Chase).—Review of Latin Grammar.—Exercises in writing Latin. *Four hours a week.*
5. *English Literature and Composition.* Lives and Works of English Authors.—Rhetoric.—Compositions. *One hour a week.*
6. *History.* Smith's History of Greece.—Liddell's History of Rome. *One hour a week.*
7. *Physical Geography.* Guyot's Earth and Man.
8. *Zoology.* Tenney's.
9. *Botany.* Wood or Gray. Subjects 7, 8, and 9, *two hours a week.*
10. *Drawing.* White's Art Studies. *One hour a week.*

## SOPHOMORE CLASS.

1. *Scripture.* The New Testament. *One hour a week.*
2. *Mathematics.* Loomis's Trigonometry and Surveying, with Field Practice.—Loomis's Spherical Trigonometry. *Three hours a week.*
3. *Greek.* The Iliad or Odyssey of Homer.—Plato's Apology and Crito.—The Prometheus of Æschylus.—Exercises in writing Greek. *Three hours a week.*
4. *Latin.* Horace (Chase).—The Germania and Agricola of Tacitus.—Exercises in writing Latin. *Three hours a week the first half year, two hours the second.*
5. *Ethics and Christian Evidences.* Dymond's Essays on Morality.—Paley's Evidences of Christianity. *Two hours a week.*
6. *History.* Liddell's History of Rome.—Modern History. *One hour a week.*
7. *Physics.* Norton's Natural Philosophy.—Lectures. *Three hours a week the first half year.*
8. *Chemistry.* Eliot and Storer's Chemistry.—Lectures. *Three hours a week the second half year.*
9. *Geology.* Dana's Text-book. *One hour a week the second half year.*
10. *Drawing.* White's Art Studies. *One hour a week*

## JUNIOR CLASS.

## REQUIRED STUDIES.

1. *Scripture.* Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). *One hour a week.*
2. *Mathematics.* Analytical Geometry. *Three hours a week the first half year.*



3. *Astronomy.* Descriptive Astronomy, with practice in the Observatory. *Three hours a week the second half year.*
4. *Greek.* Thucydides.—The Antigone of Sophocles.—Exercises in writing Greek. *Two hours a week.*
5. *Latin.* Cicero's Tusculan Disputations and Somnium Scipionis (Chase).—The Captives of Plautus —Chase's Selections from Juvenal.—Exercises in writing Latin. *Two hours a week.*
6. *French.* Knapp's Grammar.—Fénelon's Télémaque.—Histoire de Charles XII —Exercises. *Two hours a week.* (Students sufficiently advanced may recite in French with the Senior Class.)
7. *Geology.* Dana's Text Book (finished).
8. *Rhetoric.* Whately's Rhetoric.—Themes.
9. *Political Science.* Political Economy.—Kent's Commentaries on the Law of Nations, and American and Municipal Law.—Constitution of the United States.—Forensics. Subjects 7, 8, and 9, *four hours a week the first half year, one hour a week the second.*
10. *Logic.* Whately and Hamilton.
11. *Psychology.* Haven's Mental Philosophy (begun). Subjects 10 and 11, *three hours a week the second half year.*
12. *Elocution.* Rehearsals for Public Exhibition.
13. *Drawing.* (For students who have not attained a sufficient proficiency, or as a voluntary study for others.) *One hour a week.*

ELECTIVE STUDIES.

(*Two hours a week to be selected.*)

1. *Descriptive Geometry and Perspective.* *Two hours a week the first half year.*
2. *Chemistry.* Qualitative Analysis.—Laboratory Practice. *Four and a half hours a week the first half year, counting as two hours of recitation.*

3. *Mathematics.* Differential and Integral Calculus. *Two hours a week the second half year.*
4. *German.* Whitney's Grammar, Exercises, and Reader. *Two hours a week the second half year.*

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### SENIOR CLASS.

#### REQUIRED STUDIES.

1. *Scripture.* Greek Testament continued. *One hour a week.*
2. *Latin; and Classical Literature.* Juvenal.—Cicero's Letters.—Pliny's Letters.—The Ancient Pronunciation of Latin.—Latin Compositions.—History of the Literatures of Greece and Rome. *Two hours a week.*
3. *German.* Whitney's Grammar, Reader, and Exercises. (Required, in lieu of one of the elective studies, of those members only of the Senior Class who have not previously studied German.) *Two hours a week the second half year.*
4. *Anglo-Saxon.* *One hour a week the second half year.*
5. *Philology.* Whitney's Science of Language. *One hour a week the first half year.*
6. *Psychology.* Haven continued.—Porter's Human Intellect.—Lectures. *Two hours a week the first half year.*
7. *Natural and Revealed Religion.* Butler's Analogy. *Two hours a week the first half year.*
8. *Christian Doctrines.* Barclay and Gurney. *One hour a week the second half year.*
9. *English.* March's Philological Study, or an equivalent.—Themes. *One hour a week the second half year.*
10. *History.* Hallam's Constitutional History of England.—Guizot's History of Modern Civilization.—Arnold's Lectures on Modern History. *Two hours a week.*

11. *Anatomy, Physiology, and Hygiene.* Two hours a week the second half year.
12. *Elocution and Composition.* A Public Oration at Commencement.

ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Mechanics.* Analytical Mechanics. Two hours a week.
2. *Physics.* Acoustics.—Optics.—Heat and its Applications.—Electricity. Two hours a week.
3. *Astronomy, etc.* Loomis's Practical Astronomy, with Special Practice in the Observatory. Two hours a week the first half year. The same continued, and Meteorology. Two hours a week throughout the year.
4. *Classical Philology and Greek.* Demosthenes on the Crown, or an Equivalent.—Greek Lyric Poets.—Greek Composition.—Papillon's Greek and Latin Inflections.—Peile's Greek and Latin Etymology, with Curtius, Vanicek, and Corssen, for reference.—Curtius's and Roby's Grammars, for reference.—Inscriptions. Two hours a week.
5. *Psychology.* Jouffroy.—Berkeley.—Porter (continued). Two hours a week the second half year.
6. *French.* Sainte-Beuve or Taine.—Racine.—Sauveur's Entretiens sur la Grammaire.—Exercises. Three hours a week, counting as two hours.
7. *German.* Der Neffe als Onkel.—Schiller's Die Piccolomini.—Review of the Grammar.—Exercises. Two hours a week. (Advanced German, or French, may be dropped in the second half year by students who wish to take Calculus or Psychology in place of either of them.)
8. *Differential and Integral Calculus.* Two hours a week the second half year.

## SCIENTIFIC COURSE.

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### FRESHMAN CLASS.

1. *Scripture.* The Gospel according to John. *One hour a week.*
  2. *Mathematics.* Euclid's Geometry.—Alsop's Algebra.—Loomis's Plane Trigonometry. *Four hours a week.*
  3. *Latin.* Livy (Chase).—Horace (Chase).—Review of Latin Grammar.—Exercises in writing Latin. *Four hours a week.*
  4. *English Literature and Composition.* Lives and Works of English Authors.—Rhetoric.—Compositions. *One hour a week.*
  5. *History.* Greek and Roman History. *One hour a week.*
  6. *Physics.* Norton's Natural Philosophy.—Lectures. *Three hours a week the first half year.*
  7. *Chemistry.* Eliot and Storer.—Lectures. *Three hours a week the second half year.*
  8. *Physical Geography.* Guyot's Earth and Man.
  9. *Zoology.* Tenney's.
  10. *Botany.* Wood or Gray. Subjects 8, 9, and 10, *two hours a week.*
  11. *Drawing.* White's Art Studies. *One hour a week.*
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### SOPHOMORE CLASS.

1. *Scripture.* The New Testament. *One hour a week.*
2. *Mathematics.* Loomis's Trigonometry and Surveying with Field Practice.—Loomis's Spherical Trigonometry. *Three hours a week.*

3. *Astronomy.* Descriptive Astronomy, with practice in the Observatory. *Three hours a week the second half year.*
4. *French.* Knapp's Grammar.—Fénelon's *Télémaque*.—*Histoire de Charles XII*—Exercises. *Two hours a week.* (Students sufficiently advanced may recite in French with the Junior Class.)
5. *Ethics and Christian Evidences.* Dymond's *Essays on Morality*.—Paley's *Evidences of Christianity*. *Two hours a week.*
6. *History.* History of Rome.—Modern History. *One hour a week.*
7. *Chemistry.* Qualitative Analysis.—Laboratory Practice. *Four and a half hours a week the first half year, counting as two hours.*
8. *Chemical Philosophy.* (Cooke.) *Two hours a week the second half year.*
9. *Physics.* Tyndall on Heat. *Two hours a week the first half year.*
10. *Geology.* Dana's Text-book. *One hour a week the second half year.*
11. *Natural History.* Advanced Zoology and Biology. *Two hours a week the first half year.*
12. *Drawing.* Mechanical Drawing. *Three hours a week.*

\* \* \* Students who have a sufficient knowledge of French may take the Latin of the Classical Course in place of that study. Latin may be taken also in place of Natural History.

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## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible; or the Greek Testament (for students having a sufficient knowledge of Greek). *One hour a week.*

2. *Mathematics.* Analytical Geometry.—Differential and Integral Calculus. *Three hours a week.*
3. *Descriptive Geometry and Drawing.* Church's Descriptive Geometry.—Isometric Projection and Perspective. *Two hours a week.*
4. *French.* Sainte-Beuve or Taine.—Racine.—Sauveur's Entretiens sur la Grammaire.—Exercises. *Three hours a week, counting as two hours.*
5. *German.* Whitney's Grammar, Exercises, and Reader. *Two hours a week the second half year.*
6. *Geology.* Dana's Text-book (finished).
7. *Rhetoric.* Whately's Rhetoric.—Themes.
8. *Political Science.* Political Economy.—Kent's Commentaries on the Law of Nations, and American and Municipal Law.—Constitution of the United States.—Forensics. Subjects 6, 7, and 8, *four hours a week the first half year, one hour the second.*
9. *Logic.* Whately and Hamilton.
10. *Psychology.* Haven's Mental Philosophy (begun). Subjects 9 and 10, *three hours a week the second half year.*
11. *Physics.* Acoustics.—Optics.—Heat and its Applications.—Electricity. *Two hours a week.*
12. *Elocution.* Rehearsals for Public Exhibition.

## ELECTIVE STUDIES.

*(One study to be selected.)*

1. *Chemistry.* Qualitative and Quantitative Analysis. *Two hours a week the first half year.*
2. *Advanced Geology, and Mineralogy.* Lyell.—Dana. *Two hours a week the first half year.*
3. *Elementary Greek.* Grammar and Reader.—Scientific Nomenclature. *Two hours a week the first half year.*
4. *Latin.* Cicero's Tusculan Disputations, etc. *Two hours a week the first half year.*

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible, or Greek Testament. *One hour a week.*
2. *Mathematics.* Analytical Mechanics. *Two hours a week.*
3. *Astronomy, etc.* Loomis's Practical Astronomy, with practice in the Observatory.—Meteorology. *Two hours a week.*
4. *German.* Der Neffe als Onkel.—Schiller's Die Piccolomini.—Review of the Grammar.—Exercises. *Two hours a week.*
5. *Anglo-Saxon.* *One hour a week the second half year.*
6. *Psychology.* Haven (continued).—Porter's Human Intellect.—Lectures. *Two hours a week the first half year.*
7. *Philology.* Whitney's Science of Language. *One hour a week the first half year.*
8. *Natural and Revealed Religion.* Butler's Analogy. *Two hours a week the first half year.*
9. *Christian Doctrines.* Barclay and Gurney. *One hour a week the second half year.*
10. *English.* March's Philological Study.—Themes. *One hour a week the second half year.*
11. *History.* Hallam's Constitutional History of England.—Guizot's History of Modern Civilization.—Arnold's Lectures on Modern History. *Two hours a week.*
12. *Anatomy, Physiology, and Hygiene.* *Two hours a week the second half year.*
13. *Composition and Eloquence.* A Public Oration at Commencement.

## ELECTIVE STUDIES.

(One study to be selected.)

1. *Mathematics.* Determinants.—Theory of Equations.—Quaternions. *Two hours a week.*

2. *Experimental Physics.* Two hours a week.
  3. *Chemistry.* Quantitative Analysis.
  4. *Applied Mechanics and Constructive Engineering.*  
Two hours a week.
  5. *Psychology.* Jouffroy.—Berkeley.—Porter (continued).  
—Lectures. Two hours a week the second half year.  
To be substituted for German or History.
  6. *Greek.* Homer.—History of Greek Literature. Two  
hours a week.
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## Lectures.

THE Courses of Lectures for the year 1878-79 are as follows:—

### TO THE WHOLE COLLEGE.

<i>The Philosophy of Christianity</i>	PROFESSOR P. E. CHASE.
<i>Physics</i> . . . . .	PROF. MENDENHALL.
<i>Chemistry</i> . . . . .	PROFESSOR SHARPLESS.
<i>English Literature</i> . . . .	PRESIDENT CHASE.
<i>Roman Life and Art.</i> . . . .	J. HALL McILVAINE.
<i>Natural History</i> . . . . .	HENRY C. MCCOOK.
<i>The Right Uses of a Library</i> .	PROFESSOR THOMAS.

### TO THE SENIOR CLASS.

<i>Philosophical Principles</i> . .	PROFESSOR P. E. CHASE.
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### TO THE JUNIOR CLASS.

<i>Inductive and Deductive Logic</i>	PROFESSOR P. E. CHASE.
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## Examinations.

IN determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are private examinations of each class, in writing, in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts or that of Bachelor of Science. The examinations are conducted upon the following plan:—

The members of the class under examination are seated in a room by themselves, under the supervision of an officer, and a set of questions is furnished them upon some book or subject in the course, which each student is required to answer in writing, without consulting any person or book. The time of writing, for the examination in each book, is limited to four hours. The questions are upon topics and passages selected throughout the text-books, or upon connected matters which have been clearly illustrated in the teacher's instructions, or are sufficiently explained in the books of reference ordinarily accessible. The examination is calculated to test as accurately as possible the scholarly habits of the student, and his knowledge of the whole subject. Neatness of penmanship, *orthography*, grammar, and style of expression receive due weight in the estimation of the value of the answers; and special examinations in English composition will be directed to these important points.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. *But no student is entitled to such advancement, whatever his numbers or rank, unless, in the private judgment of all his instructors and caretakers, he has been faithful in his daily studies, and satisfactory in his character and conduct.*

The *viva voce* examinations are made in the daily recitations. Each recitation during the course is marked on a scale in which ten indicates the highest excellence. From the aggregate of marks received for recitations, themes, exercises, etc., deductions are made for irregularities and misdemeanors; and the sum of credit marks remaining, reduced to an average on the scale of ten, is combined

with the average obtained in the written examinations, to determine a student's rank.

*Special* written examinations are occasionally held, to test the proficiency of students.

## Degree of Master.

BACHELORS OF ARTS of three years' standing may take the degree of Master of Arts, and BACHELORS OF SCIENCE of three years' standing may take the degree of Master of Science, on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an Examination on some literary or scientific Course of Study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the Examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate Courses of Study to be presented by candidates for the Second Degree:—

- I. The Pauline Epistles in Greek (with Winer's or Buttmann's N. T. Grammar, Grimm's Lexicon, and Scrivener's Introduction).
- II. The whole of Thucydides.
- III. Seven Tragedies of Æschylus, Sophocles, or Euripides.
- IV. Cicero's Tusculan Disputations (five books), De Natura Deorum, and De Officiis.
- V. The whole of Tacitus.
- VI. Schiller's History of the Thirty Years' War, and Wallenstein (all the parts), in the original German.
- VII. The Nicomachean Ethics of Aristotle (in the original), and Jouffroy's Introduction to Ethics.
- VIII. The History and Principles of Moral Science, and the Ethics of Christianity.
- IX. Thermodynamics.

X. Theoretical Astronomy (Watson and Gauss).

XI. Rankine's Applied Mechanics, or Rankine's Civil Engineering.

XII. Freeman's History of the Norman Conquest, Green's larger History of England, and Hallam's and May's Constitutional Histories.

XIII. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Leo Meyer).

Candidates who are examined may also (if they desire) hand in Dissertations on topics, in their field of study, which they have elaborately investigated.

Notice of application for examination must be given two months before Commencement. The examinations will be held the first week in the Sixth month, and no later. The fee for the Diploma is Twenty Dollars, to be paid to the Prefect, in all cases, before the 15th of the Sixth month.

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## Alumni Prize

### for Composition and Oratory.

THE Association of the Alumni, in the year 1875, instituted an ANNUAL PRIZE of a Gold Medal for excellence in Composition and Oratory.

The prize was awarded last year to JOHN HENRY GIFFORD, of the class of 1879, for his oration on "The Destiny of the Roman People."

The following are the *Regulations* governing the competition:—

I. The Alumni Medal is offered, yearly, to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five judges shall be appointed from year to year by the Alumni Committee, who shall on the

evening of the last 6th day in the Fifth month hear publicly, in Alumni Hall, all competitors who may be qualified to contest.

III. No oration shall occupy, in delivery, more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

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## Library.

LIBRARIAN, Prof. ALLEN C. THOMAS ; Assistant Librarians, Dr. C. W. TOWNSEND and J. L. LYNCH ; COMMITTEE in charge of the Library, Richard Wood, *Chairman* ; Benjamin V. Marsh, Philip C. Garrett, Charles Roberts, Edward Bettie, Jr., Edward L. Scull.

THE number of bound volumes in the Library Hall, accessible to the members of the College, is 11,344. Of these, the LIBRARY OF HAVERFORD COLLEGE contains 7600 volumes ; that of the LOGANIAN SOCIETY 2374 ; those of other societies 1370. Numerous American and European periodicals, scientific and literary, are taken by the Library.

By contributions of friends of the College, a fund of ten thousand dollars has been established, the income of which is devoted to the increase of the Library.

The College possesses—a gift from Friends in England—a copy of the imperial edition of the CODEX SINAITICUS, published by the Emperor of Russia, and Woidé's edition of the CODEX ALEXANDRINUS. To these have been added, by donation and purchase, the Roman edition of the CODEX VATICANUS, and Tischendorf's edition of the same CODEX. The Library thus contains copies, nearly in facsimile, of the most ancient known manuscript-authorities for the genuine text of the New Testament.

Fine copies of Walton's Polyglot and Castell's Lexicon were presented in 1876 by J. Bevan Braithwaite.

An excellent cast of the ROSETTA STONE, with its tri-lingual inscription, is among our palæographic treasures.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves are freely consulted.

A CARD CATALOGUE of the College and the Society Libraries has recently been made, and is of great service in showing at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

## Museum, Laboratories, and Apparatus.

The MINERALOGICAL COLLECTION contains about 3000 specimens, including the collection of the late Dr. Troost. The GEOLOGICAL CABINET comprises about 2500 specimens, and contains complete suits illustrating the Geology of New York and South Carolina, prepared for the College by the late Lardner Vanuxem.

A valuable set of elastic models made by Anzoux, of Paris, admirably exhibiting, by dissection, the actual appearance and anatomy of the minute, as well as the larger, organs of the entire human body, and of other interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY; also, a collection of plaster models of FOSSIL SPECIES in Natural History, made by Professor Ward, of Rochester, have been presented to the Museum by Richard Wood.

Extensive APPARATUS is furnished for the illustration of Natural Philosophy and Chemistry, and important additions to it are now making.

Greatly improved accommodations have been provided within the past year for the CHEMICAL and PHYSICAL LABORATORIES.

## Astronomical Observatory.

THE HAVERFORD OBSERVATORY affords the students in the higher classes the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains an Equatorial Telescope, mounted in the Fraunhofer style, with an object-glass of  $8\frac{1}{4}$  inches aperture, and a focal length of 11 feet, and furnished with an annular micrometer, with six eyepieces, varying in magnifying power from 60 to 900 times; a Meridian Transit Circle, of the German form, having a Telescope of 4 inches aperture, and 5 feet focus, with a circle at each end of the axis 26 inches in diameter—one reading by four verniers to two seconds of arc, the other used simply as a finder; a Prime Vertical Transit; a Solar Clock; a Sidereal Clock, with the mercurial compensation; and Bond's Magnetic Chronograph, for the instantaneous recording of observations.

The latitude of the Observatory is  $40^{\circ} 0' 36''.5$  N.; its longitude,  $5^h 1^m 12^{sec}.75$  W. from Greenwich.

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## Societies.

THE LOGANIAN SOCIETY was established by the Officers and Students in 1834. The exercises in its weekly meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN," monthly. It has in its possession a carefully selected Library of 2374 volumes, and cabinets of conchology, geology, natural history, medals, and coins. A large GYMNASIUM, also, is under its direction, and a CARPENTER'S SHOP belongs to the Society.

THE ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 1370 volumes.

## Situation of the College.

THE College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County, Pa.* The buildings are situated on a lawn of upwards of sixty acres, tastefully laid out, and adorned with a great variety of trees and shrubbery. The grounds of the College comprise excellent fields for cricket and base-ball.

THE FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; and BARCLAY HALL in 1876-77. Barclay Hall is a beautiful edifice of granite, 220 by 40 feet, containing private studies and dormitories for about eighty students. It is furnished with the best modern conveniences, and with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining-room, recitation-rooms, and Museum are in the Founders' Hall, which has recently been remodelled in its internal arrangements, but retains its original external appearance.

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## Instruction and Discipline.

THE Courses of Instruction at Haverford, aiming at thorough and generous training, retain the standard studies proved by long experience to be most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent times. Both courses are designed to give a broad, as well as thorough culture, so that the Baccalaureate Degrees, whether in Arts



or Science, may attest a comprehensive and truly liberal education.

As the students form one household, their Religious Instruction is carefully provided for. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, Barclay's Apology, and Gurney's Essays and Observations, form part of the regular course of study. Loyal to all truth, Haverford College inculcates faithfully the simple cardinal truths of pure religion.

In the Discipline of the College, the Officers endeavor to promote habits of diligence, order, and regularity. Such restraints only are imposed as are deemed necessary to attain these ends, or to secure the students from those temptations which are incident to their situation. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and, above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.



## DEGREES GRANTED IN 1878.

At the Commencement in 1878, Degrees were granted, in course, to the following graduates :—

**BACHELORS OF ARTS.**

HENRY BAILY,  
ALBERT LANG BAILY,  
FRANCIS KING CAREY,  
EDWARD THOMAS COMFORT,  
CHARLES SUMNER CROSMAN,  
SAMUEL H. HILL,  
LINDLEY M. H. REYNOLDS,  
DANIEL SMILEY, JR.,  
HENRY LONGSTREET TAYLOR,  
J. M. WHITALL THOMAS,  
GEORGE WILSON WHITE.

**BACHELORS OF SCIENCE.**

JONATHAN ELDRIDGE,  
EDWARD FORSYTHE,  
CYRUS PIGGOTT FRAZIER, A.B.,  
ROBERT B. HAINES, JR.,  
HENRY NEWLIN STOKES.

**MASTERS OF ARTS.**

A. M. ELLIOTT (Class of 1866).  
REUBEN HAINES (Class of 1871).  
EDWARD P. ALLINSON (Class of 1874).

# ORDER OF RECITATIONS.

## FIRST TERM, 1878-79.

### SECOND-DAY.

SENIORS.....	9 $\frac{1}{2}$ -10 $\frac{1}{2}$ Latin.	.....	11-12 Astronomy, French.	.....	3-4 Greek, Physics, Chemical Anal.
JUNIORS.....	Rhetoric.	.....	Greek, <i>French.</i>	.....	Chemical Anal. <i>Physics.</i>
SOPHOMORES..	History.	.....	Latin, <i>Mech. Drawing.</i>	.....	Greek, <i>Chemical Anal.</i>
FRESHMEN.....	Phys. Geog.	.....	Eng. Lit.	.....	Latin.

### THIRD-DAY.

SENIORS.....	9-10 .....	.....	10-11 German, Mechanics.	.....	Astronomy, French.
JUNIORS.....	Anal. Geom.	.....	Greek, <i>French.</i>	.....	Butler's Anal. Latin.
SOPHOMORES..	Greek, <i>Zoology.</i>	.....	Trigonometry.	.....	Greek Comp. <i>Tyndall.</i>
FRESHMEN.....	Geometry.	.....	Latin.	.....	Algebra.

### FOURTH-DAY.

SENIORS.....	Latin.	.....	History.	.....	Greek, Chemical Anal., Astronomy.
JUNIORS.....	Anal. Geom.	.....	Desc. Geom.	.....	Latin.
SOPHOMORES..	Latin, <i>Tyndall.</i>	.....	<i>Zoology.</i>	.....	Physics.
FRESHMEN.....	History.	.....	Greek, <i>Physics.</i>	.....	Chemical Anal. Latin, <i>Chemical Anal.</i> Phys. Geog.

### FIFTH-DAY.

SENIORS.....	Greek Test.	.....	2-3 Physics.	.....	German, Mechanics.
JUNIORS.....	Greek Test. <i>Eng. Bible.</i>	.....	<i>Physics.</i>	.....	Rhetoric.
SOPHOMORES..	(S $\frac{1}{2}$ ) { Gr. Test. and Eng. (9 $\frac{1}{4}$ )	.....	Drawing.	.....	Ethics.
	{ Bible. " <i>Eng. Bible.</i>	.....	{ <i>Mech.</i> " <i>Drawing.</i>	.....	
FRESHMEN.....	" Eng. Bible.	.....	" Drawing.	.....	Geometry.

### SIXTH-DAY.

SENIORS.....	Butler's Anal.	.....	11-12 Psychology.	.....	Comp. Philology.
JUNIORS.....	French.	.....	Desc. Geom.	.....	Geology.
SOPHOMORES..	Physics.	.....	Trigonometry.	.....	Ethics.
FRESHMEN.....	Greek, <i>Physics.</i>	.....	Latin.	.....	Algebra.

### SEVENTH-DAY.

SENIORS.....	8.45-9.40 History.	.....	9.40-10.35 French.	.....	10.35-11.40 Psychology.
JUNIORS.....	French.	.....	Anal. Geom.	.....	
SOPHOMORES..	Physics, <i>French.</i>	.....	Trigonometry.	.....	
FRESHMEN.....	Greek, <i>Physics.</i>	.....	Latin.	.....	

N. B. When the Scientific Course differs from the Classical, the subjects of the Scientific Department are placed in italics.

# ORDER OF RECITATIONS.

## SECOND TERM, 1878-79.

### SECOND-DAY.

	9.5-10	11-12	2-3	3-4
SENIORS.....	Anatomy.	French.	Psychology.	Greek, Physic.
JUNIORS.....	Kent.	Astronomy, <i>French.</i>	.....	French. <i>Physic.</i>
SOPHOMORES..	Ethics.	Greek, <i>Astronomy.</i>	.....	Chemistry, <i>French.</i>
FRESHMEN....	Algebra.	Eng. Lit.	.....	Greek, <i>Chemistry.</i>

### THIRD-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	.....	German, Calculus.	French.	.....	History.
JUNIORS.....	Latin.	.....	Astronomy, <i>French.</i>	.....	Greek. <i>Desc Geom.</i>
SOPHOMORES.	Trigonometry.	.....	Greek, <i>Astronomy.</i>	{ <i>Mech.</i> } <i>Drawing.</i>	Latin.
FRESHMEN....	Latin.	.....	Algebra.	.....	History.

### FOURTH-DAY.

SENIORS.....	Barclay's Apology.	.....	Anatomy.	German. Calculus.	Chem. Phil.
JUNIORS.....	Logic.	<i>Desc. Geom.</i>	Latin.	<i>Calculus.</i>	Greek.
SOPHOMORES.	History.	.....	Trigonometry.	.....	Greek, <i>Chem. Phil.</i>
FRESHMEN....	Algebra.	.....	Zoology.	.....	Latin.

### FIFTH-DAY.

	9-10	9½-10½	2-3	3-4
SENIORS.....	Greek Test.	.....	Comp. Philol.	Latin.
JUNIORS.....	Greek Test, <i>Eng. Bible.</i>	.....	.....	Logic.
SOPHOMORES..	(8½) { Greek Test. <i>Eng Bib.</i>	(9½) { <i>Drawing.</i> <i>Mech.</i> <i>Drawing.</i>	.....	Geology.
FRESHMEN....	Eng. Bible.	<i>Drawing.</i>	.....	Latin.

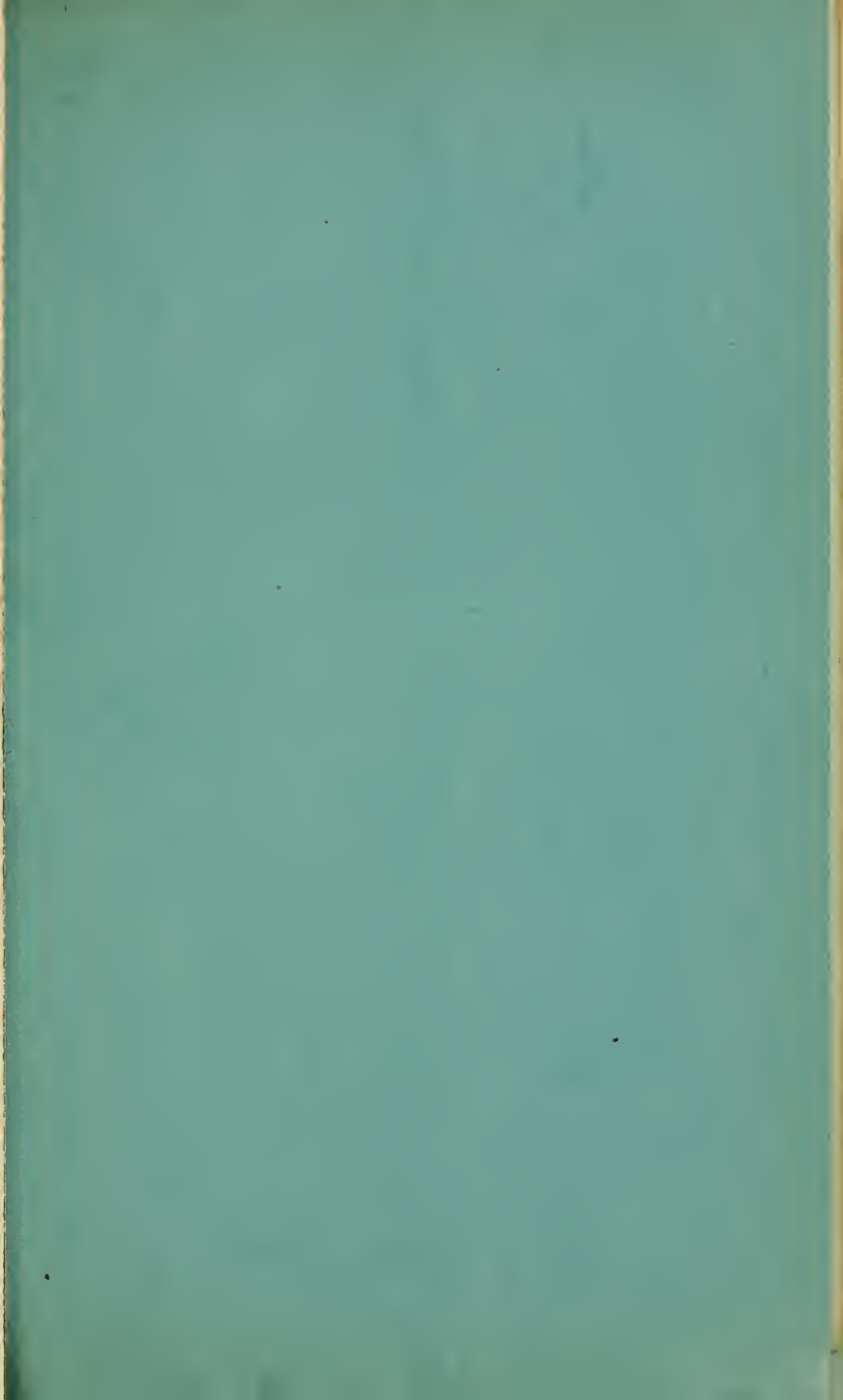
### SIXTH-DAY.

		11-12		
SENIORS.....	French.	English	Psychology.	Greek, Physic.
JUNIORS.....	Astronomy, <i>French.</i>	German.	.....	French, <i>Physic.</i>
SOPHOMORES..	Chemistry, <i>Astronomy.</i>	Ethics.	.....	Chemistry, <i>French.</i>
FRESHMEN....	Greek, <i>Chemistry.</i>	Latin.	.....	Greek, <i>Chemistry.</i>

### SEVENTH-DAY.

	8.45-9.40	9.40-10.35	10.35-11.40
SENIORS.....	Latin.	Chem. Philos.	History.
JUNIORS.....	Logic.	.....	German.
SOPHOMORES..	Latin.	<i>Chem. Philos.</i>	Trigonometry.
FRESHMEN....	Algebra.	.....	Zoology.







CATALOGUE  
OF THE  
Officers and Students  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1879-80.

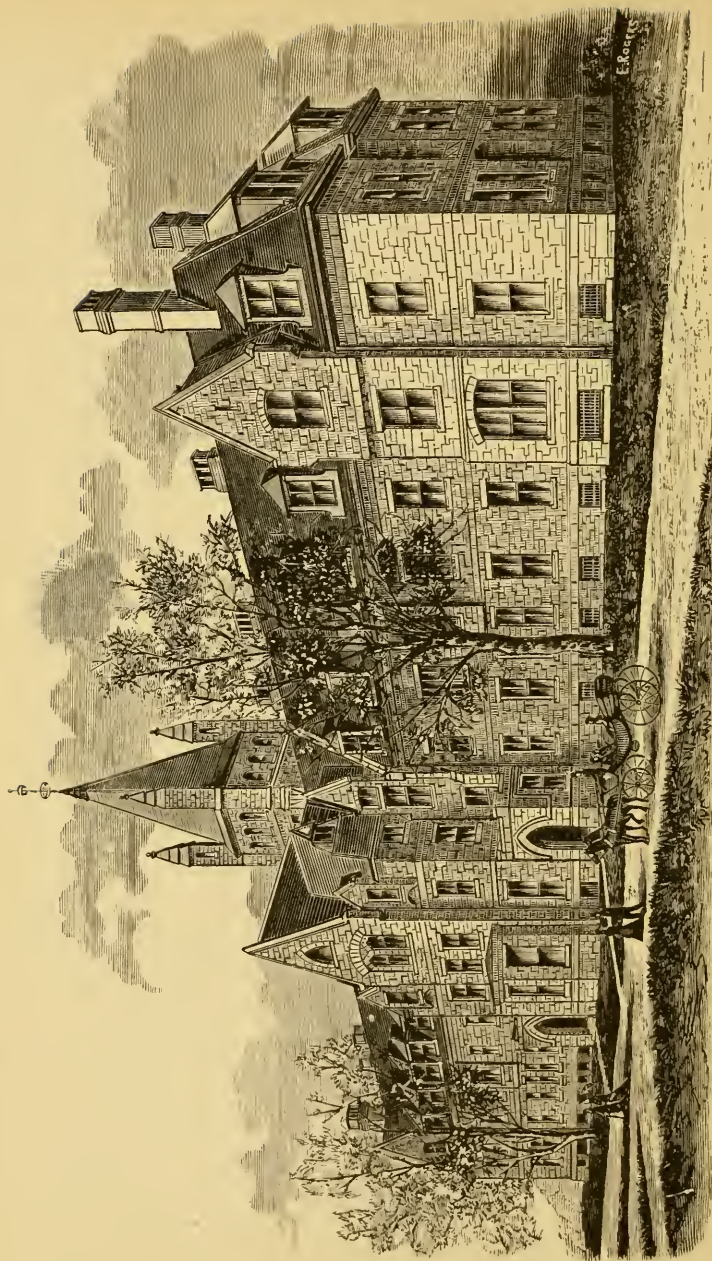


PHILADELPHIA:  
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1880.









BARCLAY HALL.

CATALOGUE  
OF THE  
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HAVERFORD COLLEGE,  
FOR THE  
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1879-80.



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1880.

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EDWARD BETTLE, JR.

*Treasurer,*

DAVID SCULL, JR.,

125 Market St., Philadelphia.

*Managers.*

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T. WISTAR BROWN,	ROBERT B. HAINES,
JOSEPH W. TAYLOR,	FRANCIS T. KING,
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HUGH D. VAIL,	GEORGE HOWLAND, JR.,
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BENJAMIN V. MARSH,	WILLIAM G. RHOADS,
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RICHARD CADBURY,	EDWARD L. SCULL,
DAVID SCULL, JR.,	CHARLES S. TAYLOR,
JOEL CADBURY,	FRANCIS WHITE.

*Secretary of the Board,*

EDWARD BETTLE, JR.

*Executive Committee.*

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JAMES WHITALL,	EDWARD BETTLE, JR.,
HUGH D. VAIL,	WILLIAM G. RHOADS,
DAVID SCULL, JR.,	RICHARD CADBURY,
PHILIP C. GARRETT,	

## Faculty.

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*President,*

THOMAS CHASE, LL. D.,

Office, Barclay Hall, No. 58.

*Superintendent,*

NEREUS MENDENHALL, M. D.,

Office, Barclay Hall.

*Prefect,*

ALLEN CLAPP THOMAS, A. B.,

Office, Founders' Hall, No. 74.

---

THOMAS CHASE, LL. D.,

*Professor of Philology and Literature.*

PLINY EARLE CHASE, LL. D.,

*Professor of Philosophy and Logic.*

ISAAC SHARPLESS, S. B.,

*Professor of Mathematics and Astronomy.*

NEREUS MENDENHALL, M. D.,

*Professor of Greek and Latin.*

ALLEN CLAPP THOMAS, A. B.,

*Professor of Rhetoric and History.*

ROBERT BOWNE WARDER, S. B., A. M.,

*Professor of Chemistry and Physics.*

## SENIOR CLASS.

### *CLASSICAL SECTION.*

BREDE, CHARLES FREDERIC, . . .	Salem, Iowa.
COX, CHARLES ELWOOD, . . .	Lawrence, Kan.
EDWARDS, JOSIAH PENNINGTON, . . .	Spiceland, Ind.
LYNCH, JAMES LEWIS, . . .	Longwood, Mo.
MASON, SAMUEL, JR., . . .	Germantown, Pa.
PERRY, WILLIAM FRANCIS, . . .	Wakefield, R. I.
RHOADS, JOSEPH, JR., . . .	Wilmington, Del.

### *SCIENTIFIC SECTION.*

BISHOP, WILLIAM, . . . .	Columbus, N. J.
CORBIT, ALEXANDER P., . . .	Odessa, Del.
GAUSE, CHARLES EDWARD, JR., . .	Plainfield, N. J.
JONES, EDWARD MAGARGE, . . .	Germantown, Pa.

## JUNIOR CLASS.

### *CLASSICAL SECTION.*

BLAIR, WILLIAM ALLEN, . . .	High Point, N. C.
CAREY, A. MORRIS, . . .	Baltimore, Md.
EDWARDS, LEVI TALBOTT, . .	Spiceland, Ind.
HARTSHORNE, EDW. YARNALL, .	Philadelphia, Pa.
JOHNSON, ISAAC THORNE, . .	Wilmington, Ohio.
KENNARD, EDWIN ORSON, . .	Knightstown, Ind.
MOORE, JESSE HOLLOWELL, . .	Goldsboro', N. C.
PAGE, WILLIAM ENOCH, . . .	Peabody, Mass.
PRICE, WALTER FERRIS, . . .	Philadelphia, Pa.
SUTTON, ISAAC, . . . . .	Providence, R. I.
WINSLOW, THOMAS NEWBY, . .	Belvidere, N. C.
WINSTON, JOHN CLARK, . . .	Richmond, Va.

### *SCIENTIFIC SECTION.*

BRINTON, WALTER, . . . . .	West Chester, Pa.
COLLINS, WILLIAM HENRY, . .	Poughkeepsie, N. Y.
COOK, JOSEPH HORACE, . . .	Philadelphia, Pa.
FORSYTHE, DAVIS HOOPES, . .	West Grove, Pa.
HADLEY, WALTER CARPENTER, .	Chicago, Ills.
PHILLIPS, JOHN LOUGEAY, . .	Pittsburgh, Pa.
SHIPLEY, WALTER PENN, . . .	Germantown, Pa.
SMITH, ALBANUS LONGSTRETH, .	Hestonville, Phila., Pa.
VAIL, GEORGE REQUA, . . . .	Los Angeles, Cal.

## SOPHOMORE CLASS.

*CLASSICAL SECTION.*

BARTON, GEORGE A.,	.	.	E. Farnham, Province Quebec, Canada.
CHASE, WILLIAM CROMWELL,	.	.	Haverford College, Pa.
COX, ISAAC MILTON,	.	.	Lawrence, Kan.
HAZARD, RICHARD BOWNE,	.	.	North Ferrisburgh, Vt.
JONES, WILMOT RUFUS,	.	.	South China, Me.
MORGAN, JESSE HENLEV,	.	.	Oskaloosa, Iowa.
RANDOLPH, EDWARD,	.	.	Philadelphia, Pa.
ROBINSON, HERBERT WILLIAM,	.	.	South Windham, Me.
ROBINSON, WILLIAM HENRY,	.	.	South Windham, Me.

*SCIENTIFIC SECTION.*

COFFIN, JOHN ELIHU,	.	.	Fairmount, Kan.
CORBIT, DANIEL,	.	.	Odessa, Del.
CROSSMAN, GEORGE LORING,	.	.	Swampscott, Mass.
JAY, WILLIAM CHARLES,	.	.	Providence, R. I.
JONES, FREDERIC D.,	.	.	South China, Me.
MOTT, RICHARD,	.	.	Burlington, N. J.
PALMER, THOMAS CHALKLEY, JR.,	.	.	Media, Pa.
RUSHMORE, TOWNSEND,	.	.	Plainfield, N. J.
WINSTON, LINDLEY MURRAY,	.	.	Richmond, Va.



# FRESHMAN CLASS.

## CLASSICAL SECTION.

BLANCHARD, JOHN, . . . .	Bellefonte, Pa.
BRIGGS, FRANK ELWOOD, . . . .	Winthrop, Me.
CRAIG, ANDREW CATHERWOOD, JR., . . . .	Philadelphia, Pa.
DUNN, ROBERT ROWE, . . . .	Chestnut Hill, Pa.
EVANS, GEORGE HENRY, . . . .	Indianapolis, Ind.
RHODES, RICHARD SOMERS, . . . .	Aston Mills, Pa.
SHOEMAKER, SAMUEL BINES, . . . .	Germantown, Pa.
STUART, FRANCIS BACON, . . . .	Spiceland, Ind.
THOMAS, BOND VALENTINE, . . . .	Baltimore, Md.
WILBUR, HENRY LAWRENCE, . . . .	Bryn Mawr, Pa.
WORTHINGTON, THOMAS KIMBER, . . . .	Baltimore, Md.

## SCIENTIFIC SECTION.

COLLINS, STEPHEN WILLETS, . . . .	Purchase, N. Y.
EDWARDS, DAVID WILLIAM, . . . .	Spiceland, Ind.
SCULL, WILLIAM ELLIS, . . . .	Philadelphia, Pa.
SPRUANCE, JOHN SPOTSWOOD, . . . .	Wilmington, Del.
WHITE, WILLIAM ALPHEUS, . . . .	Red Cross, N. C.
WHITNEY, CHARLES HENRY, . . . .	Bryn Mawr, Pa.
WHITNEY, LOUIS BUTLER, . . . .	Bryn Mawr, Pa.

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OSBORNE, WILLIAM ELMORE, . . . .	Bennington, O.
PRICE, WILLIAM F., . . . .	Bergen Point, N. J.
TYSON, JAMES WOOD, JR., . . . .	Baltimore, Md.

## SUMMARY.

Seniors,	.	.	.	.	.	.	11
Juniors,	.	.	.	.	.	.	21
Sophomores,	.	.	.	.	.	.	18
Freshmen and Special Students,	.	.	.	.	.	.	21
Total,	.	.	.	.	.	.	<hr/> 71

## Calendar.

College Year, 1879-80, began with the be-

ginning of the Autumn Term, 1879,	9th Mo. 3.
Winter Recess began . . . . .	12th Mo. 23.
Winter Term began,* 1880, . . . . .	1st Mo. 6.
Second Half-year begins . . . . .	2d Mo. 2.
Mid-year Examinations begin . . . . .	1st Mo. 24.
Oration before the Loganian Society, . . . . .	4th Mo. 13.
Junior Exercises, . . . . .	4th Mo. 14.
Spring Recess begins . . . . .	4th Mo. 14.
Spring Term begins* . . . . .	4th Mo. 28.
Public Orations for the Prize, . . . . .	5th Mo. 28.
Public Meeting of the Loganian Society, . . . . .	6th Mo. 28.
Address before the Alumni, . . . . .	6th Mo. 29.
Address to the Graduating Class, . . . . .	6th Mo. 30.
Commencement Day, 1880, . . . . .	6th Mo. 30.
Examinations for Admission, . . . . .	6th Mo. 30.

### VACATION OF TEN WEEKS.

Examinations for Admission, . . . . .	9th Mo. 7.
College Year, 1880-81, begins* . . . . .	9th Mo. 8.
Winter Recess begins . . . . .	12th Mo. 23.
Winter Term begins,* 1881, . . . . .	1st Mo. 3.
Second Half-year begins . . . . .	2d Mo. 2.
Spring Recess begins . . . . .	4th Mo. 13.
Commencement Day, 1881, . . . . .	6th Mo. 29.

\* The first recitations are due promptly at *half-past nine o'clock* at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

## Requisites and Terms for Admission.

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CANDIDATES for admission to the Freshman Class in the CLASSICAL COURSE, will be examined as to their proficiency in the following requisites :

CLASSICS.—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in *Latin and Greek Grammar*, to be tested, in part, by *writing* sentences in Latin and Greek ; acquaintance with Prosody, to be proved by *scanning verses* from Virgil ; and ability to give, after an hour's study, with the aid of a Lexicon, a literal *translation of a passage not before read* by the candidate, both in Latin and Greek prose or verse, equal in amount to fifty hexameter lines, and to apply the proper rules of Syntax to the constructions in that passage.

Candidates are recommended to read the books of a preparatory course in Greek and Latin which are ordinarily prescribed in the requisitions for admission to American colleges ; but this course may be varied at the discretion of teachers, the object being simply that the candidate shall possess a sufficient knowledge of both languages to enable him to pursue, with facility and advantage, the studies of the Freshman year.

MATHEMATICS.—*Arithmetic*, including the *Metric System* ; *Algebra*, including Quadratic Equations. Some introductory knowledge in *Geometry*, gained from the first four books of Sharpless's *Geometry*, or their equivalents, is also desirable.

ENGLISH.—*Spelling, Grammar, English Composition, Civil Geography, Physical Geography*, the elements of *Greek and Roman History* (as in Pennell's *Elements*, or their equiva-

lents), and the *History of the United States*. The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics.

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Classical Course, except in the Greek language, and will also be examined in Balfour Stewart's *Primer of Physics* and Gray's "*How Plants Grow*," or equivalents.

Satisfactory examination-papers, written under proper supervision at first-class schools, and forwarded to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a Degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to Advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and also on subsequent examination thoroughly fitted in *all* the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that "The College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismissal in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to President THOMAS CHASE, LL.D., Haverford College P. O., Montgomery Co., Pa. Candidates will present themselves at Founders' Hall, for examination by the Faculty, *at 2 o'clock on Commencement-day*, or *at 9 o'clock on the morning previous to the beginning of the College term* at which they desire to enter.

The price of Board and Tuition (together with fuel, lights, and all necessary furniture and service), is \$425.00 per annum, payable to the Prefect, one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students, who dine at the College, the annual charge is \$250.00.

There are telegraph, Adams's Express, and U. S. money-order offices at Bryn Mawr, Montgomery Co., Pa., one mile from the College.

For further information, and for circulars or catalogues, address Professor ALLEN C. THOMAS, Prefect, Haverford College, Montgomery Co., Pa.

## Courses of Instruction.

### CLASSICAL COURSE.

#### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
2. *Mathematics*. Sharpless's Geometry; Greenleaf's University Algebra. Four hours a week.
3. *Greek*. Xenophon's Memorabilia, or an equivalent; Herodotus; Homer; Review of Greek Grammar; Exercises in writing Greek. Three hours a week.
4. *Latin*. Livy (Chase); Horace (Chase); Review of Latin Grammar; Exercises in writing Latin. Four hours a week.
5. *English Literature and Composition*. Lives and Works of English Authors; Rhetoric; Compositions. One hour a week.
6. *History*. Cox's History of Greece; Leighton's History of Rome; Chronology.
7. *Zoology*. Tenney's.
8. *Botany*. Wood or Gray. Subjects 6, 7, and 8, three hours a week.
9. *Drawing*. White's Art Studies. One hour a week.

#### SOPHOMORE CLASS.

1. *Scripture*. The New Testament. One hour a week.
2. *Mathematics*. Schuyler's Trigonometry and Surveying, with Field Practice; Schuyler's Spherical Trigonometry and Navigation. Three hours a week.

3. *Greek*. The Iliad or Odyssey of Homer; Plato's Apology and Crito; The Prometheus of Æschylus; Exercises in writing Greek. Three hours a week.

4. *Latin*. Horace (Chase); The Germania and Agricola of Tacitus; Exercises in writing Latin. Three hours a week the first half year, two hours the second.

5. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity.

6. *History*. Mediæval History, Johnson's Normans in Europe; Modern History. Subjects 5 and 6, three hours a week.

7. *Physics*. Natural Philosophy; Lectures. Three hours a week the first half year.

8. *Chemistry*. Eliot and Storer's Chemistry; Lectures. Three times a week the second half year.

9. *Geology*. Dana's Text-Book. One hour a week the second half year.

10. *Drawing*. White's Art Studies. One hour a week.

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## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

2. *Mathematics*. Peck's Analytical Geometry. Three hours a week the first half year.

3. *Astronomy*. Newcomb and Holden's Descriptive. Three hours a week the second half year.

4. *Greek*. Thucydides; The Antigone of Sophocles; Exercises in writing Greek. Two hours a week.

5. *Latin*. Cicero's Tusculan Disputations and Somnium Scipionis (Chase); The Captives of Plautus; Chase's Selections from Juvenal; Exercises in writing Latin. Two hours a week.



6. *French*.\* Knapp's Grammar ; Fenelon's *Télémaque* ; *Histoire de Charles XII* ; Exercises. Two hours a week. (Students sufficiently advanced may recite in French with the Senior Class.)

7. *Geology*. Dana's Text-Book (finished).

8. *Rhetoric*. Whately's Rhetoric ; Themes.

9. *Political Science*. Political Economy ; Kent's Commentaries on the Law of Nations, and American and Municipal Law ; Constitution of the United States ; Forensics. Subjects 7, 8, and 9, four hours a week the first half year, one hour a week the second.

10. *Logic*. Whately and Hamilton.

11. *Psychology*. Haven's Mental Philosophy (begun). Subjects 10 and 11, three hours a week the second half year.

12. *Elocution*. Rehearsals for Public Exhibition.

13. *Drawing*. (For Students who have not attained a sufficient proficiency, or as a voluntary study for others.) One hour a week.

#### ELECTIVE STUDIES.

(Two hours a week to be selected.)

1. *Descriptive Geometry, Shades and Shadows, and Perspective*. Two hours a week the first half year.

2. *Chemistry*. Qualitative Analysis ; Laboratory Practice. Four and a half hours a week the first half year, counting as two hours of recitation.

3. *Mathematics*. Peck's Differential and Integral Calculus. Two hours a week the second half year.

4. *German*.† Whitney's Grammar, Exercises, and Reader. Two hours a week the second half year.

\* In the Academical year 1880-81, German will be studied as the sixth subject, in place of French.

† In the Academical year 1880-81, French will take the place of German as the fourth elective, with three recitations a week.

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *Scripture*. Greek Testament continued. One hour a week.

2. *Latin, and Classical Literature*. Juvenal; Cicero's Letters; Pliny's Letters; The Ancient Pronunciation of Latin; Latin Compositions; History of the Literatures of Greece and Rome. Two hours a week.

3. *German*. Whitney's Grammar, Reader, and Exercises. (Required in lieu of one of the elective studies, of those members only of the Senior Class who have not previously studied German.) Two hours a week the second half year.

4. *Anglo-Saxon*. One hour a week the second half year.

5. *Philology, etc.* Keary's Dawn of History. One hour a week the first half year.

6. *Psychology*. Haven continued; Porter's Human Intellect; Lectures. Two hours a week the first half year.

7. *Natural and Revealed Religion*. Butler's Analogy. Two hours a week the first half year.

8. *Christian Doctrines*. Barclay and Gurney. One hour a week the second half year.

9. *English*. Philological Study; Themes. One hour a week the second half year.

10. *History*. Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Arnold's Lectures on Modern History; Seeböhm's Protestant Revolution. Two hours a week.

11. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.

12. *Elocution and Composition*. A Public Oration at Commencement.

ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Mechanics*. Smith's Analytical Mechanics. Two hours a week.

2. *Physics*. Acoustics ; Optics ; Electricity. Two hours a week.

3. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory. Two hours a week the first half year. The same continued, and Meteorology. Two hours a week throughout the year.

4. *Classical Philology, and Greek*. Demosthenes on the Crown, or an equivalent ; Greek Lyric Poets ; Greek Composition ; Papillon's Greek and Latin Inflections ; Peile's Greek and Latin Etymology, with Curtius, Vaniquek, and Corssen, for reference ; Curtius's and Roby's Grammars, for reference ; Inscriptions. Two hours a week.

5. *Psychology*. Jouffroy ; Berkeley ; Porter (continued). Two hours a week the second half year.

6. *French*. Sainte-Beuve or Taine ; Racine ; Sauveur's Entretiens sur la Grammaire ; Exercises. Three hours a week, counting as two hours.

7. *German*. Schiller's Die Piccolomini ; Review of the Grammar ; Exercises. Two hours a week. (Advanced German, or French, may be dropped in the second half year by students who wish to take Calculus or Psychology in place of either of them.)

8. *Peck's Differential and Integral Calculus*. Two hours a week the second half year.

SCIENTIFIC COURSE.

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## FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
  2. *Mathematics*. Sharpless's Geometry; Greenleaf's University Algebra. Four hours a week.
  3. *Latin*. Livy (Chase); Horace (Chase); Review of Latin Grammar; Exercises in writing Latin. Four hours a week.
  4. *English Literature and Composition*. Lives and Works of English Authors; Rhetoric; Compositions. One hour a week.
  5. *Physics*. Natural Philosophy; Lectures. Three hours a week the first half year.
  6. *Chemistry*. Eliot and Storer; Lectures. Three times a week the second half year.
  7. *History*. Cox's History of Greece; Leighton's History of Rome; Chronology.
  8. *Zoology*. Tenney's.
  9. *Botany*. Wood or Gray. Subjects 7, 8, and 9, three hours a week.
  10. *Drawing*. White's Art Studies. One hour a week.
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## SOPHOMORE CLASS.

1. *Scripture*. The New Testament. One hour a week.
2. *Mathematics*. Schuyler's Trigonometry and Surveying with field practice; Schuyler's Spherical Trigonometry and Navigation. Three hours a week.

3. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

4. *French*.\* Knapp's Grammar; Fénelon's *Télémaque*; *Histoire de Charles XII*; Exercises. Two hours a week. (Students sufficiently advanced may recite in French with the Junior Class.)

5. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

6. *History*. Mediæval History, Johnson's Normans in Europe; Modern History. One hour a week.

7. *Chemistry*. Qualitative Analysis; Laboratory practice. Three times a week, the first half year, counting as two hours.

8. *Chemical Philosophy*. Two hours a week the second half year.

9. *Physics*. Tyndall on Heat. Two hours a week the first half year.

10. *Geology*. Dana's Text-Book. One hour a week the second half year.

11. *Natural History*. Advanced Zoology and Biology. Two hours a week the first half year.

12. *Drawing*. Mechanical, Isometric, and Perspective Drawing. Three hours a week.

\* \* Latin may be taken in the place of Natural History.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible; or the Greek Testament (for students having a sufficient knowledge of Greek). One hour a week.

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\* In the Academical year 1880-81, German will be studied as the fourth subject, in place of French.

2. *Mathematics.* Peck's Analytical Geometry; Peck's Differential and Integral Calculus. Three hours a week.

3. *Mathematics.* Church's Descriptive Geometry; Isometric Projection, Shades and Shadows, and Perspective; Todhunter's Mechanics for Beginners. Two hours a week.

4. *French.*\* Sainte-Beuve or Taine; Racine; Sauveur's Entretiens sur la Grammaire; Exercises. Three hours a week, counting as two hours.

5. *German.*\* Whitney's Grammar, Exercises, and Reader. Two hours a week the second half year.

6. *Geology.* Dana's Text-Book (finished).

7. *Rhetoric.* Whately's Rhetoric; Themes.

8. *Political Science.* Political Economy; Kent's Commentaries on the Law of Nations, and American and Municipal Law; Constitution of the United States; Forensics. Subjects 6, 7, and 8, four hours a week the first half year, one hour the second.

9. *Logic.* Whately and Hamilton.

10. *Psychology.* Haven's Mental Philosophy (begun). Subjects 9 and 10, three hours a week the second half year.

11. *Physics.* Aconstics; Optics; Electricity. Two hours a week. (The class of 1882 will study Tyndall on Heat and Chemical Philosophy in place of this course in Physics.)

12. *Elocution.* Rehearsals for Public Exhibition.

#### ELECTIVE STUDIES.

(One study to be selected.)

1. *Chemistry.* Qualitative and Quantitative Analysis. Twice a week the first half year.

2. *Advanced Geology and Mineralogy.* Lyell; Dana. Two hours a week the first half year.

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\* In the year 1881-82, the fourth subject will be advanced German, and the fifth introductory French.

3. *Elementary Greek.* Grammar and Reader ; Scientific Nomenclature. Two hours a week the first half year.

4. *Latin.* Cicero's Tusculan Disputations, etc. Two hours a week the first half year.

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## SENIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible, or Greek Testament. One hour a week.

2. *Mathematics.* Smith's Analytical Mechanics. Two hours a week.

3. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory ; Meteorology. Two hours a week.

4. *German.* Schiller's Die Piccolomini ; Review of the Grammar ; Exercises. Two hours a week.

5. *Anglo-Saxon.* One hour a week the second half year.

6. *Philology, etc.* Keary's Dawn of History. One hour a week the first half year.

7. *Psychology.* Haven (continued) ; Porter's Human Intellect ; Lectures. Two hours a week the first half year.

8. *Natural and Revealed Religion.* Butler's Analogy. Two hours a week the first half year.

9. *Christian Doctrines.* Barclay and Gurney. One hour a week the second half year.

10. *English.* Philological Study ; Themes. One hour a week the second half year.

11. *History.* Hallam's Constitutional History of England ; Guizot's History of Modern Civilization ; Arnold's Lectures on Modern History ; Seebohm's Protestant Revolution. Two hours a week.

12. *Anatomy, Physiology, and Hygiene.* Two hours a week the second half year.

13. *Composition and Elocution.* A Public Oration at Commencement.

ELECTIVE STUDIES.

(One study to be selected.)

1. *Mathematics.* Determinants; Theory of Equations; Quaternions. Two hours a week.

2. *Experimental Physics.* Physical Measurements. Twice a week. (Open to such students as have shown a marked proficiency in the Chemical Laboratory.)

3. *Chemistry.* Analysis, and other experimental practice.

4. *Applied Mechanics and Constructive Engineering.* Two hours a week.

5. *Psychology.* Jouffroy; Berkeley; Porter (continued); Lectures. Two hours a week the second half year. (To be substituted for German.)

6. *Greek.* Homer; History of Greek Literature. Two hours a week.

7. *Drawing.* (As a voluntary extra study.)

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## Lectures.

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The Courses of Lectures for the year 1879-80 are as follows:—

<i>The Friendship of Books,</i>	. . .	PRESIDENT CHASE.
<i>Ants and Spiders,</i>	. . . . .	HENRY C. MCCOOK.
<i>The Philosophy of Geo. Fox,</i>	. . .	PROF. P. E. CHASE.
<i>The Right Uses of a Library,</i>	. . .	PROFESSOR THOMAS.
<i>Physics,</i>	. . . . .	PROFESSOR WARDER.



## Examinations.

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In determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are written examinations of each class in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts or that of Bachelor of Science. These examinations are calculated to test as accurately as possible the scholarly habits of the students and the attainments which they have made.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds, on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. But no student is entitled to such advancement, whatever his numbers or rank, unless, in the judgment of all his instructors and caretakers, he has been faithful in his daily studies, and satisfactory in his character and conduct.

The *viva voce* examinations are made in the daily recitations. Each recitation during the course is marked on a scale in which ten indicates the highest excellence. From the aggregate of marks received for recitations, themes, exercises, etc., deductions are made for irregularities and misdemeanors; and the sum of credit marks remaining, reduced to an average on the scale of ten, is combined with the average obtained in the written examinations, to determine a student's rank.

*Special* written examinations are occasionally held.

## Degree of Master.

BACHELORS OF ARTS of three years' standing may take the degree of Master of Arts, and BACHELORS OF SCIENCE of three years' standing may take the degree of Master of Science, on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an examination on some literary or scientific course of study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate courses of study to be presented by candidates for the Second Degree:—

I. The whole of the New Testament in Greek, with Winer's or Buttmann's *N. T. Grammar*, Grimm's *Lexicon*, and Scrivener's *Introduction*.

II. The whole of Thucydides, together with Grote and Curtius on the period of the Peloponnesian War.

III. Ten Tragedies of Æschylus, Sophocles, or Euripides.

IV. Cicero's *Tusculan Disputations* (five books), *De Natura Deorum*, and *De Officiis*; together with Ritter's *History of Ancient Philosophy*.

V. The whole of Tacitus, together with Merivale.

VI. Gervinus's *History of Modern Europe*; or Schiller's *History of the Thirty Years' War*, and *Wallenstein* (all the parts), in the original German; together with a thorough examination in the nicer points of German Grammar and composition, and in translation at sight, both from German (not before read) into English, and from English into German.

VII. The *Nicomachean Ethics* of Aristotle (in the original); Jouffroy's *Introduction to Ethics*, and Whewell's *Ethics*.

VIII. Thermodynamics.

IX. Theoretical Astronomy (Watson and Gauss).

X. Rankine's Applied Mechanics, or Rankine's Civil Engineering.

XI. Freeman's History of the Norman Conquest, Green's larger History of England, and Stubbs's, Hallam's, and May's Constitutional Histories.

XII. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Benfey, Fick, Leo Meyer, Pezzi). Some knowledge of Sanskrit will be expected of candidates in this course.

Candidates who are examined may also, if they desire, hand in Dissertations on topics, in their field of study, which they have elaborately investigated.

Notice of application for examination must be given to the Prefect two months before Commencement. The examinations will be held the first week in the Sixth month and no later. The fee for the Diploma is Twenty Dollars, to be paid to the Prefect, in all cases before the 15th of the Sixth month.

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## Alumni Prize for Composition and Oratory.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE of a Gold Medal for excellence in Composition and Oratory.

The prize was awarded last year to JOSIAH PENNINGTON EDWARDS, of the class of 1880, for his oration on "The Living and the Dead."

The following are the Regulations governing the competition:—

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five judges shall be appointed from year to year by the Alumni Committee, who shall, on the evening of the last Sixth day in the Fifth month, hear publicly, in Alumni Hall, all competitors who may be qualified to contest.

III. No Oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

A special prize of Two Hundred and Fifty Dollars was awarded in 1879, to Léon Chotteau, of France, for a dissertation on "The Most Practicable Plan for Promoting the Speedy Substitution of Judicial for Violent Methods of Settling International Disputes."

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## Library.

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LIBRARIAN, Prof. Allen C. Thomas; COMMITTEE in charge of the Library, Richard Wood, *Chairman*: Benjamin V. Marsh, Philip C. Garrett, Charles Roberts, Edward Bettie, Jr., Edward L. Scull.

The number of bound volumes in the Library Hall, accessible to the members of the College, is 12,056. Of these, the LIBRARY OF HAVERFORD COLLEGE contains 8178 volumes; that of the LOGANIAN SOCIETY 2359; those of other societies 1519. Numerous American and European periodicals, scientific and literary, are taken by the Library.

By contributions of friends of the College, a fund of ten thousand dollars has been established, the income of which is devoted to the increase of the Library.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves may be freely consulted.

A CARD CATALOGUE of the College and the Society Libraries shows at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

## Museum, Laboratories, and Apparatus.

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THE MINERALOGICAL COLLECTION contains over 3000 specimens, including the collection of the late Dr. Troost. The GEOLOGICAL CABINET comprises about 2500 specimens, and contains complete suits illustrating the Geology of New York and South Carolina, prepared for the College by the late Lardner Vanuxem. A handsome collection of minerals was presented recently by William S. Vaux. Collections of fossils and of shells were purchased in 1879.

A large collection of valuable birds' eggs has been given to the Museum by Hannah W. Scull. The cabinets of Natural History which belonged to the Loganian Society have also been presented to the College.

A set of elastic models, made by Auzoux, of Paris, admirably exhibiting, by dissection, the actual appearance and anatomy of the minute, as well as the larger, organs of the human body, and of interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY; also a collection of plaster models of FOSSIL SPECIES in Natural History, made by Professor Ward, of Rochester, have been presented to the Museum by Richard Wood.

Extensive APPARATUS is furnished for the illustration of Natural Philosophy and Chemistry.

Greatly improved accommodations have been provided for the CHEMICAL and PHYSICAL LABORATORIES.

## Astronomical Observatory.

THE HAVERFORD OBSERVATORY affords the students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains an Equatorial Telescope, mounted in the Fraunhofer style, with an object-glass of  $8\frac{1}{4}$  inches aperture, and a focal length of 11 feet, and furnished with an annular micrometer, with six eye-pieces, varying in magnifying power from 60 to 900 times; a Meridian Transit Circle, of the German form, having a Telescope of 4 inches aperture and 5 feet focus, with a circle at each end of the axis 26 inches in diameter, one reading by four verniers to two seconds of arc, the other used simply as a finder; a Prime Vertical Transit; a Solar Clock; a Sidereal Clock, with the mercurial compensation; and Bond's Magnetic Chronograph, for the instantaneous recording of observations.

The latitude of the Observatory is  $40^{\circ} 0' 36'' .5$  N.; its longitude,  $5^{\text{h}} 1' 12'' .75$  W. from Greenwich.

## Societies.

THE LOGANIAN SOCIETY was established by the Officers and Students, in 1834. The exercises in its weekly meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN," monthly. It has in its possession a carefully selected Library, of 2359 volumes, and a cabinet of

medals and coins. A large GYMNASIUM, and a CARPENTER'S SHOP belong to the Society.

The ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 1519 volumes.

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## Situation of the College.

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THE College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST-OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County*, Pa. The buildings are situated in the midst of grounds of upwards of sixty acres, tastefully laid out, and adorned with a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base-ball, football, archery, and lawn-tennis.

The FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; and BARCLAY HALL in 1876-77. Barclay Hall, a beautiful edifice of granite, 220 by 40 feet, contains the private studies and dormitories. It is furnished with the best modern conveniences, and with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining-room, recitation-rooms, and Museum are in the Founders' Hall, which was remodelled in its internal arrangements in 1878, but retains its original external appearance.

## Instruction and Discipline.

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THE Courses of Instruction at Haverford, aiming at thorough and generous training, embrace the standard studies proved by long experience to be most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent times. Both courses are designed to give a broad, as well as thorough culture, so that the Baccalaureate Degrees, whether in Arts or Science, may attest a comprehensive and truly liberal education.

As the students form one household, Religious Instruction is carefully provided. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, Barclay's Apology, and Gurney's Essays, form part of the regular course of study. Loyal to all truth, Haverford College inculcates faithfully the simple and immutable truths of pure religion.

In the Discipline of the College, the officers endeavor to promote habits of diligence, order, and regularity. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and, above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.



## Degrees Granted in 1879.

At the Commencement in 1879, Degrees were granted, in course, to the following graduates :

### BACHELORS OF ARTS.

The Class of 1879.	WILLIAM C. LOWRY,
SAMUEL BISPHAM, JR.,	JOHN B. NEWKIRK,
EDWARD GIBBONS,	JOHN E. SHEPPARD, JR.
JOHN H. GIFFORD,	Of the Class of 1872.
FRANCIS HENDERSON,	JOHN E. FORSYTHE.

### MASTERS OF ARTS.

ALONZO BROWN (Class of 1875).  
 J. FRANKLIN DAVIS (Class of 1875).  
 FRANCIS G. ALLINSON (Class of 1876).  
 SETH K. GIFFORD (Class of 1876).

The following Degrees were bestowed *honoris causa* :

### MASTERS OF ARTS.

RICHARD M. JONES,  
 ELLIS YARNALL.

# Order of Recitations.

FIRST HALF-YEAR, 1879-80.

## SECOND-DAY.

	9.30-10.30		11-12		3-4
SENIORS.....	Latin,	.....	Greek,	.....	German.
	<i>Ex. Physics.</i>	.....	<i>Mechanics.</i>	.....	
JUNIORS.....	Anal. Geom.	.....	Rhetoric.	.....	Chem. Anal.
		.....		.....	<i>Desc. Geom.</i>
SOPHOMORES.	Ethics.	.....	Nat. Philos.,	.....	Latin,
		.....	<i>Zoology.</i>	.....	<i>Chem. Anal.</i>
FRESHMEN....	Latin.	.....	Greek,	.....	Phys. Geog.
		.....	<i>Nat. Philos.</i>	.....	

## THIRD-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....	History.	.....			Butler.		<i>Ex. Physics.</i>		Latin.
JUNIORS.....	Greek.	.....			Anal. Geom.	.....			Rhetoric.
	<i>Chem. Anal.</i>	.....				.....			
SOPHOMORES.	Trigonometry.	.....			History.	.....			Trigonom.
FRESHMEN....	Latin.	.....	Geometry.	.....		.....			Latin.

## FOURTH-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....	Astronomy,		Greek.	.....					Psychology.
	<i>Nat. Philos.</i>			.....					
JUNIORS.....	Latin.		French.	.....			Chem. Anal.		Greek.
	<i>Nat. Philos.</i>			.....	<i>French.</i>				
SOPHOMORES.	Greek.			.....	Nat. Philos.		<i>Zoology.</i>		Latin.
	<i>Nat. Philos.</i>		<i>French.</i>	.....					
FRESHMEN....	Phys. Geog.	.....		.....	Greek,	.....			History.
		.....		.....	<i>Nat. Philos.</i>	.....			

## FIFTH-DAY.

	8.30-9.30		9-10		9.30-10.30		2-3		3-4
SENIORS.....			Greek Test.	.....					German,
	<i>Eng. Bible.</i>			.....			<i>Mechanics.</i>		<i>Nat. Philos.</i>
JUNIORS.....	<i>Eng. Bible.</i>		Greek Test.	.....			Latin.		<i>Nat. Philos.</i>
SOPHOMORES.	Greek Test.,			.....	Drawing,				Greek,
	<i>Eng. Bible.</i>			.....	<i>Mec. Draw.</i>				<i>Nat. Philos.</i>
FRESHMEN....	Eng. Bible.	.....		.....	Drawing.	.....			Geometry.

## SIXTH-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....			Butler.	.....			Psychology.		Philology.
JUNIORS.....	<i>French.</i>		Anal. Geom.	.....	<i>French.</i>		Chem. Anal.		<i>Desc. Geom.</i>
SOPHOMORES.	Nat. Philos.	.....		.....	Latin.				
		.....		.....					
FRESHMEN....	<i>Mec. Draw.</i>			.....	Geometry.		<i>Chem. Anal.</i>		Greek.
	Greek,	.....		.....					Rhetoric.
	<i>Nat. Philos.</i>	.....		.....					

## SEVENTH-DAY.

	8.35-9.30		9.30-10.25		10.25-11
SENIORS.....	Astronomy.	.....			History.
JUNIORS.....	Rhetoric.	.....			Geology.
SOPHOMORES	Ethics.	.....	<i>French.</i>	.....	Trigonometry.
FRESHMEN....		.....	Geometry.	.....	Latin.

N. B.—Where the Scientific Course differs from the Classical, the subjects of the Scientific Department are printed in italics.

# Order of Recitations.

## SECOND HALF-YEAR, 1880.

### SECOND-DAY.

	9.35-10.35	11-12	2-3	3-4
SENIORS.....	Anatomy.	Chemical Anal. <i>Nat. Philos.</i>	Psychology.	Astronomy.
JUNIORS.....	Logic.	Latin, <i>Nat. Philos.</i>	.....	Greek, Mechanics.
SOPHOMORES....	History.	Latin, <i>Nat. Philos.</i>	.....	Ethics.
FRESHMEN.....	Algebra.	Zoology.	.....	Latin.

### THIRD-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Anatomy.	.....	German.	Latin.	Chem. Anal. French.
JUNIORS.....	Latin.	German.	Calculus.	French.	<i>French.</i>
SOPHOMORES.....	.....	Geology.	Ethics.	<i>French.</i>	Chemistry.
FRESHMEN.....	Algebra.	.....	Latin.	.....	Greek <i>Chemistry.</i>

### FOURTH-DAY.

	9-10	10-11	11-12		3-4
SENIORS.....	Latin.	Mechanics, Greek.	German.	.....	Astronomy, <i>Nat. Philos.</i>
JUNIORS .....	Polit. Science.....	.....	Astronomy, Mechanics.	.....	Greek, <i>Nat. Philos.</i>
SOPHOMORES..	Trigonometry.....	.....	Greek, <i>Astronomy.</i>	.....	Latin, <i>Nat. Philos.</i>
FRESHMEN.....	Latin.	.....	History.	.....	Eng. Lit.

### FIFTH-DAY.

	8.30-9.30	9-10	9.30-10.30	2-3	3-4
SENIORS.....	.....	Greek Test., <i>Eng. Bible.</i>	.....	Greek.	History.
JUNIORS.....	.....	Greek Test., <i>Eng. Bible.</i>	.....	.....	German.
SOPHOMORES ..	Greek Test., <i>Eng. Bible.</i>	.....	Drawing, <i>Mech. Draw.</i>	.....	Greek.
FRESHMEN .....	Eng. Bible.	.....	Drawing.	.....	Algebra.

### SIXTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	History.	French.	Barclay's Ap.	Psychology. Mechanics.	French.
JUNIORS.....	Astronomy.	<i>French.</i>	Logic.	.....	Astronomy, <i>French.</i>
SOPHOMORES...	Chemistry, <i>Astronomy.</i>	.....	Trigonometry.	.....	Chemistry. <i>Astronomy.</i>
FRESHMEN.....	Greek, <i>Chemistry.</i>	.....	Latin.	.....	Greek, <i>Chemistry.</i>

### SEVENTH-DAY.

	8.35-9.30	9.30-10.25	10.25-11.20
SENIORS.....	.....	Anglo Saxon	History.
JUNIORS.....	Calculus.	French.	Logic.
SOPHOMORES...	Greek.	<i>French.</i>	Trigonometry.
FRESHMEN.....	Zoology.	Algebra.	







CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1880-81.

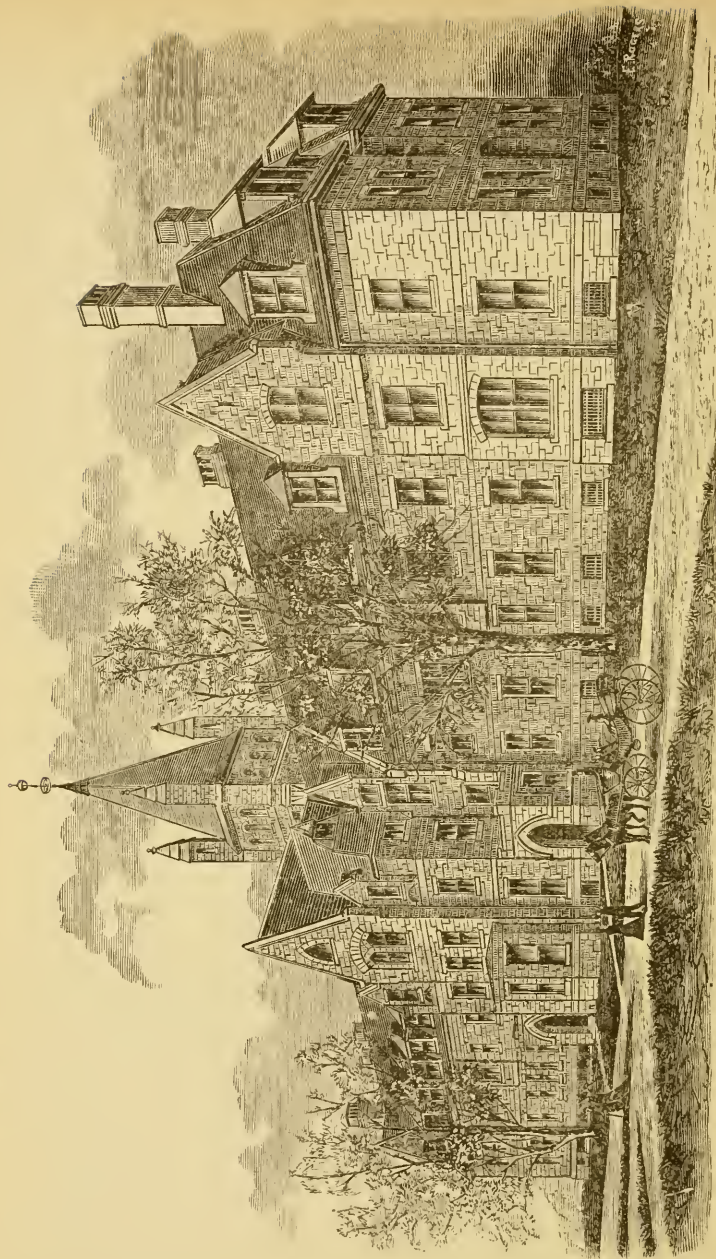


PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1881.









BARCLAY HALL.

CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE  
FOR THE  
ACADEMICAL YEAR  
1880-81.



PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1881.

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DAVID SCULL, JR.,	RICHARD CADBURY,
EDWARD L. SCULL,	PHILIP C. GARRETT,
CHARLES ROBERTS,	

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AND PROFESSOR OF PHILOLOGY AND LITERATURE.

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AND IN CHARGE OF THE DISCIPLINE.

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ASSISTANT PROFESSOR OF GREEK AND LATIN.

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INSTRUCTOR IN NATURAL HISTORY, AND CURATOR OF THE MUSEUM.

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AND INSTRUCTOR IN MECHANICAL DRAWING.

SAMUEL BRUN, S.B.,  
INSTRUCTOR IN FRENCH.

ALFRED GREELEY LADD, A.M., M.D.,  
INSTRUCTOR IN PHYSICAL CULTURE AND DIRECTOR OF THE GYMNASIUM.

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*Candidates for the Degrees of A. M. and S. M.*

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*CLASSICAL SECTION.*

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CAREY, A. MORRIS,	. . . .	Baltimore, Md.
EDWARDS, LEVI TALBOT,	. . .	Spiceland, Ind.
HARTSHORNE, EDWARD YARNALL,		Philadelphia, Pa.
JOHNSON, ISAAC THORNE,	. . .	Wilmington, Ohio.
KENNARD, EDWIN ORSON,	. . .	Knightstown, Ind.
MOORE, JESSE HOLLOWELL,	. . .	Goldsboro', N. C.
PAGE, WILLIAM ENOCH,	. . .	Peabody, Mass.
PRICE, WALTER FERRIS,	. . .	Philadelphia, Pa.
SUTTON, ISAAC,	. . . . .	Providence, R. I.
WINSLOW, THOMAS NEWBY,	. . .	Belvidere, N. C.
WINSTON, JOHN CLARK,	. . .	Richmond, Va.

*SCIENTIFIC SECTION.*

BRINTON, WALTER,	. . . .	West Chester, Pa.
COLLINS, WILLIAM HENRY,	. . .	Poughkeepsie, N. Y.
COOK, JOSEPH HORACE,	. . .	Philadelphia, Pa.
FORSYTHE, DAVIS HOOPES,	. . .	West Grove, Pa.
SMITH, ALBANUS LONGSTRÊTH,		Hestonville, Phila., Pa.

## JUNIOR CLASS.

*CLASSICAL SECTION.*

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CHASE, WILLIAM CROMWELL, .	Haverford College, Pa.
COX, ISAAC MILTON, . . . .	Lawrence, Kan.
HAZARD, RICHARD BOWNE, .	North Ferrisburgh, Vt.
JONES, WILMOT RUFUS, . . .	South China, Me.
LEEDS, WILMER PANCOAST, .	Camden, N. J.
MORGAN, JESSE HENLEY, . .	Oskaloosa, Iowa.
RANDOLPH, EDWARD, . . . .	Philadelphia, Pa.

*SCIENTIFIC SECTION.*

COFFIN, JOHN ELIHU, . . . .	Fairmount, Kan.
CORBIT, DANIEL, . . . . .	Odessa, Del.
CROSMAN, GEORGE LORING, .	Swampscott, Mass.
GAMBLE, ELISHA, . . . . .	East Carmel, O.
JAY, WILLIAM CHARLES, . . .	Providence, R. I.
JONES, FREDERIC D., . . . .	South China, Me.
PALMER, THOMAS CHALKLEY, JR.,	Media, Pa.
WINSTON, LINDLEY MURRAY, .	Richmond, Va.



## SOPHOMORE CLASS.

*CLASSICAL SECTION.*

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VAIL, HERBERT E., . . . .	Waterloo, N. Y.

*SCIENTIFIC SECTION.*

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COLLINS, STEPHEN WILLETS, .	Purchase, N. Y.
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SCULL, WILLIAM ELLIS, . . .	Philadelphia, Pa.
SHOEMAKER, SAMUEL BINES, .	Germantown, Pa.
SPRUANCE, JOHN SPOTSWOOD, .	Wilmington, Del.
WETHERELL, JOHN M., . . .	Philadelphia, Pa.
WHITE, WILLIAM ALPHEUS, .	Red Cross, N. C.
WHITNEY, CHARLES HENRY, .	Bryn Mawr, Pa.
WHITNEY, LOUIS BUTLER, . .	Bryn Mawr, Pa.
FRISSELL, WALKER IRWIN, . .	Wheeling, W. Va.
PRICE, WILLIAM F., . . . .	Newark, N. J.

FRESHMAN CLASS.

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*CLASSICAL SECTION.*

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ELLICOTT, WILLIAM MILTON, .	Philadelphia, Pa.
ESTES, JOSEPH STANLEY, . .	Vassalboro', Me.
FERRIS, DAVID SANDS, . . .	New York, N. Y.
HAINES, WILLIAM JONES, . .	Cheltenham, Pa.
JONES, SAMUEL RUFUS, . . .	West Milton, O.
PEET, WILLIAM FELLOWS, . .	Chicago, Ill.
SMITH, ALFRED PERCIVAL, . .	Germantown, Pa.
YARNALL, CHARLTON, . . .	Haverford College, Pa.

*SCIENTIFIC SECTION.*

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HILL, LOUIS TABER, . . .	Mt. Pleasant, O.
WHITE, FRANCIS ALBERTSON, .	Baltimore, Md.

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BUTLER, FREDERICK C., . .	Philadelphia, Pa.
CLOTHIER, JOHN BIRELY, . .	Philadelphia, Pa.
LIST, JOHN KILBOURNE, . . .	Wheeling, W. Va.
TYSON, JAMES WOOD, JR., . .	Baltimore, Md.

## SUMMARY.

Seniors, . . . . .	17
Juniors, . . . . .	16
Sophomores, . . . . .	27
Freshmen and Special Students, .	16
	—
Total of Undergraduates, .	76
Resident Graduates, . . . . .	2
	—
Total, . . . . .	78

## CALENDAR.

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College Year, 1880-81, began with the be-

ginning of the Autumn Term, 1880, . . . . .	9th Mo. 15.
Winter Recess began . . . . .	12th Mo. 23.
Winter Term began,* 1881, . . . . .	1st Mo. 3.
Mid-year Examinations begin . . . . .	1st Mo. 25.
Second Half-year begins . . . . .	2d Mo. 2.
Oration before the Loganian Society . . . . .	4th Mo. 14.
Junior Exercises, 6th Day, . . . . .	4th Mo. 15.
Spring Recess begins . . . . .	4th Mo. 15.
Spring Term begins* . . . . .	4th Mo. 25.
Public Orations for the Prize . . . . .	5th Mo. 27.
Public Meeting of the Loganian Society . . . . .	6th Mo. 20.
Address before the Alumni . . . . .	6th Mo. 21.
Address to the Graduating Class . . . . .	6th Mo. 22.
Commencement Day, 1881, . . . . .	6th Mo. 22.
Examinations for Admission, 2 P.M., . . . . .	6th Mo. 22.

## VACATION OF TWELVE WEEKS.

Examinations for Admission, 9 A.M., . . . . .	9th Mo. 13.
College Year, 1881-82, begins* . . . . .	9th Mo. 14.
Winter Recess begins . . . . .	12th Mo. 24.
Winter Term begins,* 1882, . . . . .	1st Mo. 3.
Second Half-year begins . . . . .	2d Mo. 1.
Spring Recess begins . . . . .	4th Mo. 15.
Commencement Day, 1882, . . . . .	6th Mo. 21.

\*The first recitations are due promptly at *half-past nine o'clock* at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

## Requisites and Terms for Admission.

CANDIDATES for admission to the Freshman Class in the CLASSICAL COURSE, will be examined as to their proficiency in the following requisites :

CLASSICS.—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in *Latin and Greek Grammar*, to be tested, in part, by *writing* sentences in Latin and Greek ; acquaintance with Prosody, to be proved by *scanning verses* from Virgil ; and ability to give, after an hour's study, with the aid of a Lexicon, a literal *translation of a passage not before read* by the candidate, both in Latin and Greek prose or verse, equal in amount to fifty hexameter lines, and to apply the proper rules of Syntax to the constructions of that passage.

Candidates are recommended to pursue the course of study in Greek and Latin which is prescribed in the requisitions for admission to the New England colleges ; but the object aimed at is that the applicant shall possess a sufficient knowledge of both languages to enable him to pursue, with facility and advantage, the studies of the Freshman year.

MATHEMATICS.—*Arithmetic*, including the *Metric System* ; *Algebra*, including Quadratic Equations. Some introductory knowledge in *Geometry*, gained from the first four books of Sharpless's *Geometry*, or their equivalents, is also desirable.

ENGLISH.—*Spelling, Grammar, English Composition, Civil Geography, Physical Geography*, the elements of *Greek and Roman History* (as in Pennell's *Elements*, or their equiva-

lents), and the *History of the United States*. The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics. Acquaintance with the elements of the *History of England* will be found advantageous.

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Classical Course, except in the Greek language, and will also be examined in the elements of *Physics* and of *Botany*.

Satisfactory examination-papers, written under proper supervision at first-class schools, and forwarded to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to Advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and also on subsequent examination thoroughly fitted in all the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that "The College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismissal in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to President THOMAS CHASE, LL.D., Haverford College P. O., Mont-

gomery Co., Pa. Candidates will present themselves at Founders' Hall, for examination by the Faculty, *at 2 o'clock on Commencement-day, or at 9 o'clock on the morning previous to the beginning of the College term* at which they desire to enter.

The price of Board and Tuition (together with fuel, lights, and all necessary furniture and service), is \$425.00 per annum, payable to the Prefect, one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students who dine at the College, the annual charge is \$250.00.

There is a telegraph office at the College Station, and there are also Adams's Express and U. S. Money-order offices at Bryn Mawr, Montgomery Co., Pa., one mile from the College.

For further information, and for circulars and catalogues, address Professor ALLEN C. THOMAS, Prefect, Haverford College, Montgomery Co., Pa.

## COURSES OF INSTRUCTION.

### CLASSICAL COURSE.

#### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
2. *Mathematics*. Sharpless's Geometry; Greenleaf's University Algebra. Four hours a week.
3. *Greek*. Xenophon's Memorabilia, or an equivalent; Herodotus; Homer; Review of Greek Grammar. Translations at sight.
4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.
5. *Latin*. Livy (Chase); Horace (Chase); Review of Latin Grammar. Translations at sight.
6. *Latin Prose Composition*. Bennett. Subjects 5 and 6, four hours a week.
7. *English Literature and Composition*. Lives and Works of English Authors; Rhetoric (A. S. Hill); Compositions. One hour a week.
8. *History*. Cox's or Smith's History of Greece; Leighton's History of Rome; Chronology.
9. *Zoology*. *Hygiene*. *Physiography*. *Botany*. Subjects 8 and 9, three hours a week.
10. *Drawing*. White's Art Studies. One hour a week.

#### SOPHOMORE \*CLASS.

1. *Scripture*. The New Testament (English and Greek). One hour a week.



2. *Mathematics*. Gummere's Trigonometry and Surveying, with Field Practice; Wheeler's Plane and Spherical Trigonometry; Higher Algebra. Three hours a week.

3. *Greek*. The Iliad or Odyssey of Homer; Plato's Apology and Crito, or Phaedo; The Prometheus of Æschylus; The Medea of Euripides. Translations at sight.

4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin*. Horace (Chase); The Germania and Agricola of Tacitus. Translations at sight.

6. *Latin Prose Composition*. Abbott. Subjects 5 and 6, three hours a week the first half year, two hours the second.

7. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity.

8. *History*. Mediæval History, Church's Beginning of the Middle Ages, or Johnson's Normans in Europe; Modern History. Subjects 7 and 8, three hours a week.

9. *Physics*. Natural Philosophy; Lectures. Three hours a week the first half year.

10. *Chemistry*. Eliot and Storer's Chemistry; Lectures. Three times a week the second half year.

11. *Mineralogy and Geology*. Dana's Manual, and Text Book. One hour a week the second half year.

12. *Drawing*. White's Art Studies. One hour a week.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

2. *Mathematics*. Peck's Analytical Geometry. Three hours a week the first half year.

3. *Astronomy*. Newcomb and Holden's Descriptive. Three hours a week the second half year.

4. *Greek*. Thucydides; The Antigone of Sophocles; Exercises in writing Greek. Two hours a week.

5. *Latin*. Cicero's Tusculan Disputations and Somnium Scipionis (Chase); The Captives of Plautus; Chase's Selections from Juvenal; Exercises in writing Latin. Two hours a week.

6. *German*. Whitney's Grammar, Exercises, and Reader; Schiller, or an Equivalent. Two hours a week.

7. *Geology*. Dana's Text-Book (finished).

8. *Rhetoric*. Whately's Rhetoric; Themes.

9. *Political Science*. Political Economy; International Law; Constitution of the United States; Cooley's Principles of Constitutional Law; Forensics. Subjects 7, 8, and 9, four hours a week the first half year, one hour a week the second.

10. *Logic*. Whately and Hamilton.

11. *Psychology*. Haven's Mental Philosophy (begun). Subjects 10 and 11, three hours a week the second half year.

12. *Elucution*. Rehearsals for Public Exhibition.

13. *Drawing*. (For Students who have not attained a sufficient proficiency, or as a voluntary study for others.) One hour a week.

#### ELECTIVE STUDIES.

(Two hours a week to be selected.)

1. *Descriptive Geometry, Shades and Shadows, and Perspective*. Two hours a week the first half year.

2. *Chemistry*. Qualitative Analysis; Laboratory Practice. Four and a half hours a week the first half year, counting as two hours of recitation.

3. *Mathematics*. Peck's Differential and Integral Calculus. Two hours a week the second half year.

4. *French*. Knapp's Grammar; Fénelon's *Télémaque*; *Histoire de Charles XII*; Exercises. Three hours a week

the second half year, counting as two hours. (Students sufficiently advanced may recite in French with the Senior Class.)

5. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.

### SENIOR CLASS.

#### REQUIRED STUDIES.

1. *Scripture*. Greek Testament continued. One hour a week.

2. *Latin, and Classical Literature*. Juvenal; Cicero's Letters; Pliny's Letters; The Ancient Pronunciation of Latin; Latin Composition; History of the Literatures of Greece and Rome. Two hours a week.

3. *French*. Grammar, Translation, and Exercises. (Required in lieu of one of the elective studies, of those members only of the Senior Class who have not previously studied French.) Three hours a week the second half year, counting as two hours.

4. *Anglo-Saxon*. One hour a week the second half year.

5. *Philology, etc.* Keary's Dawn of History. One hour a week the first half year.

6. *Psychology*. Haven continued; Porter's Human Intellect; Lectures. Two hours a week the first half year.

7. *Natural and Revealed Religion*. Butler's Analogy. Two hours a week the first half year.

8. *Christian Doctrines*. Barclay and Gurney. One hour a week the second half year.

9. *English*. Philological Study; History of the English Language; Themes. One hour a week the second half year.

10. *History*. Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Arnold's Lectures on Modern History; Seebohm's Protestant Revolution. Two hours a week.

11. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.

12. *Elocution and Composition.* A Public Oration at Commencement.

ELECTIVE STUDIES.

(*Three studies to be selected.*)

1. *Mechanics.* Smith's Analytical Mechanics. Two hours a week.

2. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory. Two hours a week. (Courses 1 and 2 are open only to those who have studied Calculus in the Junior year.)

3. *Physics.* Acoustics; Optics; Electricity. Two hours a week.

4. *Classical Philology, and Greek.* Demosthenes on the Crown, or an Equivalent; Greek Pastoral and Lyric Poets; Greek Composition; Papillon's Greek and Latin Inflections; Peile's Greek and Latin Etymology, with Curtius, Vanique, and Corssen, for reference; Curtius's and Roby's Grammars, for reference; Inscriptions. Two hours a week.

5. *Psychology.* Jouffroy; Berkeley; Porter (continued). Two hours a week the second half year.

6. *German.* Schiller's Die Piccolomini, or Jungfrau von Orleans; Heyse's Die Einsamen; Review of the Grammar; Exercises. Two hours a week.

7. *French.* Sainte-Beuve or Taine; Racine; Sauveur's Entretiens sur la Grammaire; Exercises. Three hours a week, counting as two hours. (Advanced German, or French, may be dropped in the second half year by students who wish to take Calculus or Psychology in place of either of them.)

8. *Hebrew.* Grammar; Exercises; Translations from the Old Testament. Two hours a week.

9. *Peck's Differential and Integral Calculus.* Two hours a week the second half year.

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SCIENTIFIC COURSE.

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## FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
2. *Mathematics*. Sharpless's Geometry; Greenleaf's University Algebra. Four hours a week.
3. *Latin*. Livy (Chase); Horace (Chase); Review of Latin Grammar (Translations at sight).
4. *Latin Prose Composition* (Bennett). Subjects 3 and 4, four hours a week.
5. *English Literature and Composition*. Lives and Works of English Authors; Rhetoric (A. S. Hill); Compositions. One hour a week.
6. *Physics*. Natural Philosophy; Lectures. Three hours a week the first half year.
7. *Chemistry*. Eliot and Storer; Lectures. Three times a week the second half year.
8. *History*. Cox's or Smith's History of Greece; Leighton's History of Rome; Chronology.
9. *Zoology, Hygiene, Physiography, Botany*. Subjects 8 and 9, three hours a week.
10. *Drawing*. White's Art Studies. One hour a week.

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SOPHOMORE CLASS.

1. *Scripture*. The New Testament. One hour a week.
2. *Mathematics*. Gummere's Trigonometry and Surveying, with Field Practice; Wheeler's Plane and Spherical Trigonometry; Higher Algebra. Three hours a week.

3. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

4. *German*. Whitney's Grammar, Exercises, and Reader. Schiller (or an equivalent). Two hours a week.

5. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity.

6. *History*. Mediæval History, Church's Beginning of the Middle Ages, or Johnson's Normans in Europe; Modern History. Subjects 5 and 6, three hours a week.

7. *Chemistry*. Qualitative Analysis; Laboratory practice. Three times a week, the first half year, counting as two hours.

8. *Chemical Philosophy*. Two hours a week the second half year.

9. *Physics*. Tyndall on Heat. Two hours a week the first half year.

10. *Mineralogy and Geology*. Dana's Manual, and Text-Book. One hour a week the second half year.

11. *Natural History*. Advanced Zoology and Biology. Two hours a week the first half year.

12. *Drawing*. Mechanical, Isometric, and Perspective Drawing. Three hours a week.

\* \* Latin or French may be taken in the place of Natural History.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible; or the Greek Testament (for students having a sufficient knowledge of Greek) One hour a week.

2. *Mathematics*. Peck's Analytical Geometry; Peck's Differential and Integral Calculus. Three hours a week.

3. *Mathematics*. Descriptive Geometry ; Isometric Projection, Shades and Shadows, and Perspective ; Peck's Mechanics. Two hours a week.

4. *German*. Schiller's Die Piccolomini or Jungfrau von Orleans ; Heyse's Die Einsamen ; Review of the Grammar ; Exercises. Two hours a week.

5. *French*. Knapp's Grammar ; F  nelon's T  l  maque ; Histoire de Charles XII ; Exercises. Three hours a week the second half year, counting as two hours.

6. *Geology*. Dana's Text-Book (finished).

7. *Rhetoric*. Whately's Rhetoric ; Themes.

8. *Political Science*. Political Economy ; International Law ; Constitution of the United States ; Cooley's Principles of Constitutional Law ; Forensics. Subjects 6, 7, and 8, four hours a week the first half year, one hour the second.

9. *Logic*. Whately and Hamilton.

10. *Psychology*. Haven's Mental Philosophy (begun). Subjects 9 and 10, three hours a week the second half year.

11. *Physics*. Acoustics ; Optics ; Electricity. Two hours a week. (The class of 1882 will study Tyndall on Heat and Chemical Philosophy in place of this course.)

12. *Elocution*. Rehearsals for Public Exhibition.

• ELECTIVE STUDIES.

(*One study to be selected.*)

1. *Chemistry*. Qualitative and Quantitative Analysis. Twice a week the first half year.

2. *Advanced Geology and Mineralogy*. Lyell ; Dana. Two hours a week the first half year.

3. *Elementary Greek*. Grammar and Xenophon ; Greek Testament ; Scientific Nomenclature. Two hours a week the first half year.

4. *Latin*. Cicero's Tusculan Disputations, etc. Two hours a week the first half year.

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible, or Greek Testament. One hour a week.
2. *Mathematics.* Smith's Analytical Mechanics. Two hours a week.
3. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory. Two hours a week.
4. *French.* Sainte-Beuve or Taine; Racine; Sauveur's Entretiens sur la Grammaire; Exercises. Three hours a week, counting as two hours.
5. *Anglo-Saxon.* One hour a week the second half year.
6. *Philology, etc.* Keary's Dawn of History. One hour a week the first half year.
7. *Psychology.* Haven's (continued); Porter's Human Intellect; Lectures. Two hours a week the first half year.
8. *Natural and Revealed Religion.* Butler's Analogy. Two hours a week the first half year.
9. *Christian Doctrines.* Barclay and Gurney. One hour a week the second half year.
10. *English.* Philological Study; History of the English Language; Themes. One hour a week the second half year.
11. *History.* Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Arnold's Lectures on Modern History; Seebohm's Protestant Revolution. Two hours a week.
12. *Anatomy, Physiology, and Hygiene.* Two hours a week the second half year.
13. *Composition and Elocution.* A Public Oration at Commencement.

## ELECTIVE STUDIES.

(One study to be selected.)

1. *Mathematics.* Determinants; Theory of Equations; Quaternions. Two hours a week.



2. *Experimental Physics*. Physical Measurements. Twice a week. (Open to such students as have shown a marked proficiency in the Chemical Laboratory.)

3. *Chemistry*. Analysis, and other experimental practice.

4. *Civil and Sanitary Engineering*. Mahan, Henck, Latham; Field Practice. Two hours a week.

5. *Psychology*. Jouffroy; Berkeley; Porter (continued); Lectures. Two hours a week the second half year. (May be substituted for French.)

6. *Greek*. Homer; History of Greek Literature. Two hours a week.

7. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.

8. *Drawing*. (As a *voluntary* extra study.)

## LECTURES.

The Lectures and Courses of Lectures for the year 1880-81 are as follows:—

*Dr. Arnold and Rugby*, . . . THOMAS HUGHES, LL.D.

*Radiant Energy*, . . . . . PROF. PLINY E. CHASE.

*The Irish Distress*, . . . . . JAMES HACK TUKE.

*Early Settlements of Friends in  
the Vicinity of Haverford*, . . DR. JAMES J. LEVICK.

*America's Place in History*, . . JOHN FISKE.

*French Literature*, . . . . . SAMUEL BRUN, S.B.

*The Revised New Testament*, . . PRESIDENT CHASE.

## EXAMINATIONS.

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In determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are written examinations of each class in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts or that of Bachelor of Science. These examinations are calculated to test as accurately as possible the scholarly habits of the students, and the attainments which they have made.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds, on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. But no student is entitled to such advancement, whatever his numbers or rank, unless in the judgment of his instructors and caretakers, he has been faithful in his daily studies, and satisfactory in his character and conduct.

The *viva voce* examinations are made in the daily recitations. Marks are given for each recitation attended; but special examinations may be used as an element in determining them. The average of these marks is combined with the average obtained in the semi-annual examinations, to find a student's rank.

## ADVANCED DEGREES.

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BACHELORS OF ARTS of three years' standing may take the degree of Master of Arts, and BACHELORS OF SCIENCE of three years' standing may take the degree of Master of Science, on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an examination on some literary or scientific course of study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate courses of study to be presented by candidates for the Second Degree :—

I. The whole of the New Testament in Greek, with Winer's or Buttmann's N. T. Grammar, Grimm's Lexicon, and Scrivener's Introduction.

II. The whole of Thucydides, together with Grote and Curtius on the period of the Peloponnesian War.

III. Ten Tragedies of Æschylus, Sophocles, or Euripides.

IV. Cicero's Tusculan Disputations (five books), *De Natura Deorum*, and *De Officiis*; together with the History of Ancient Philosophy.

V. The whole of Tacitus, together with Merivale.

VI. Gervinus's History of Modern Europe; or Schiller's History of the Thirty Years' War, and Wallenstein (all the parts), in the original German; together with a thorough examination in the nicer points of German Grammar and composition, and in translation at sight, both from German (not before read) into English, and from English into German.

VII. The Nicomachean Ethics of Aristotle (in the original); Jouffroy's Introduction to Ethics, and Whewell's Ethics.

VIII. Thermodynamics.

IX. Theoretical Astronomy (Watson and Gauss).

X. Practical Astronomy (Chauvenet).

XI. Rankine's Applied Mechanics, or Rankine's Civil Engineering.

XII. Freeman's History of the Norman Conquest, Green's larger History of England, and Stubbs's, Hallam's, and May's Constitutional Histories.

XIII. American History (Bancroft, Hildreth, Parkman, Frothingham's Rise of the Republic, Curtis's History of the Constitution, Von Holst's Constitutional History of the United States, The Federalist).

XIV. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Benfey, Fick, Leo Meyer, Pezzi). Some knowledge of Sanskrit will be expected of candidates in this course.

Candidates who are examined may also, if they desire, hand in Dissertations on topics in their field of study which they have elaborately investigated.

Resident Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree before the expiration of three years, if the Faculty deem it proper.

Masters of Arts and Science may be examined for the degrees of DOCTOR OF PHILOSOPHY and DOCTOR OF SCIENCE; but such degrees will be conferred only after satisfactory proof of the faithful and successful prosecution of courses of study fully equal in extent and quality to those required for similar honors in the best Universities.

Notice of application for examination must be given to the Prefect two months before Commencement. The examinations will be held the last week in the Fifth month, and no later. The fee for the Diploma of the Second Degree is Twenty Dollars, of subsequent degrees Thirty Dollars, to be paid to the Prefect in all cases before the 10th of the Sixth month.

## Alumni Prize For Composition and Oratory.

The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE of a Gold Medal, or of Books of equal value, for excellence in Composition and Oratory.

The prize was awarded last year to CHARLES EDWARD GAUSE, JR., of the class of 1880, for his oration on "Young America in Politics."

The following are the Regulations governing the competition:—

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five judges shall be appointed from year to year by the Alumni Committee, who shall, on the evening of the last Sixth day in the Fifth month, hear publicly, in Alumni Hall, all competitors who may be qualified to contest.

III. No Oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

## LIBRARY.

LIBRARIAN, Prof. Allen C. Thomas; COMMITTEE in charge of the Library, Richard Wood, *Chairman*; Benjamin V. Marsh, Philip C. Garrett, Charles Roberts, Edward Bettie, Jr., Edward L. Scull, Howard Comfort.

The number of bound volumes in the Library Hall, accessible to the members of the College, is 12,452. Of these, the LIBRARY OF HAVERFORD COLLEGE contains 8518 volumes; that of the LOGANIAN SOCIETY 2382; those of other societies 1552. Numerous American and European periodicals, scientific and literary, are taken by the Library.

By contributions of friends of the College, a fund of ten

thousand dollars has been established, the income of which is devoted to the increase of the Library.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves may be freely consulted.

A CARD CATALOGUE of the College and the Society Libraries shows at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

## MUSEUM. LABORATORIES. AND APPARATUS.

THE MINERALOGICAL COLLECTION contains over 3000 specimens, including the collection of the late Dr. Troost. The GEOLOGICAL CABINET comprises about 2500 specimens, and contains complete suits illustrating the Geology of New York and South Carolina, prepared for the College by the late Lardner Vanuxem. Collections of fossils and of shells were purchased in 1879. Donations have been received in the last year from the State Geological Survey, and from Lewis Palmer.

The cabinets of Natural History which belonged to the Loganian Society have been presented to the College. A large and very valuable collection of Birds has been given by David Scull, Jr., to which the Hannah W. Scull collection of birds' eggs is a valuable adjunct. Some excellent specimens have been received from Benjamin V. Marsh. Prof. Alexander Agassiz, of Cambridge, has sent some rare corals and echinoderms.

A set of clastic models, made by Auzoux, of Paris, admirably exhibiting, by dissection, the actual appearance and anatomy of the minute, as well as the larger, organs of the human body, and of interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY; also a collection of

FOSSIL SPECIES in Natural History, made by Professor Ward, of Rochester, have been presented to the Museum by Richard Wood.

Extensive APPARATUS is furnished for the illustration of Natural Philosophy and Chemistry.

Greatly improved accommodations have been provided for the CHEMICAL and PHYSICAL LABORATORIES.

The Gymnasium will be refitted early in 1881 with the apparatus of Dr. D. A. Sargent, Director of the Hemenway Gymnasium at Harvard University. A competent teacher, a graduate of Bowdoin College in Arts and Medicine, and a pupil of Dr. Sargent, will have direction of it, and give systematic instruction, based upon careful personal examination, to each student desiring such aid.

## ASTRONOMICAL OBSERVATORY.

THE HAVERFORD OBSERVATORY affords the students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains an Equatorial Telescope, with an object glass of  $8\frac{1}{4}$  inches aperture, and a focal length of 11 feet, furnished with a filar micrometer, a ring micrometer, and 12 eye-pieces; a Meridian Transit Circle, having a telescope of 4 inches aperture and 5 feet focal length, with a circle at each end of the axis 26 inches in diameter, one reading by 4 verniers to 2", the other used simply as a finder; a Zenith Instrument, of  $2\frac{1}{4}$  inches aperture, with micrometer; 2 Sidereal Clocks, one with mercurial compensation, the other used to connect with the Chronograph; and a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 36'' .5$  N.; its longitude,  $5^h 1' 12'' .75$  W. from Greenwich.

## SOCIETIES.

THE LOGANIAN SOCIETY was established by the Officers and Students, in 1834. The exercises in its weekly meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN," monthly. It has in its possession a carefully selected Library, of 2382 volumes, and a cabinet of medals and coins.

The ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 1552 volumes.

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## SITUATION OF THE COLLEGE.

THE College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST-OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery county*, Pa. The buildings are surrounded by grounds of upwards of sixty acres, tastefully laid out, and adorned with a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base-ball, foot-ball, archery, and lawn-tennis.

The FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; and BARCLAY HALL in 1876-77. Barclay Hall, a beautiful edifice of granite, 220 by 40 feet, contains the private studies and dormitories. It is furnished with everything calculated to make it a healthful, comfortable, and



agreeable residence. The dining-room, recitation-rooms, and Museum are in the Founders' Hall, which was remodelled in its internal arrangements in 1878, but retains its original external appearance.

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## INSTRUCTION AND DISCIPLINE.

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THE Courses of Instruction at Haverford, aiming at thorough and generous training, embrace the standard studies proved by long experience to be most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent times. Both courses are designed to give a broad, as well as thorough culture, so that the Baccalaureate Degrees, whether in Arts or Science, may attest a comprehensive and truly liberal education.

As the students form one household, Religious Instruction is carefully provided. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, Barclay's Apology, and Gurney's Essays, form part of the regular course of study. Loyal to all truth, Haverford College inculcates faithfully the simple and immutable truths of pure religion.

In the Discipline of the College, the officers endeavor to promote habits of diligence, order, and regularity. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and, above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.

## DEGREES GRANTED IN 1880.

At the Commencement in 1880, Degrees were granted, in course, to the following graduates :

## BACHELORS OF ARTS.

CHARLES F. BREDE,	SAMUEL MASON, JR.,
CHARLES E. COX,	WILLIAM F. PERRY,
JOSIAH P. EDWARDS,	JOSEPH RHOADS, JR.
JAMES L. LYNCH,	

## BACHELORS OF SCIENCE.

WILLIAM BISHOP,  
ALEXANDER PETERSON CORBIT,  
CHARLES EDWARD GAUSE, JR.,  
EDWARD MEGARGE JONES.

The following Degree was bestowed *honoris causa* :

## DOCTOR OF LETTERS,

THOMAS CHASE, LL.D.

After a Special meeting of the Board of Managers, on the 22d of Tenth Month, the following Degree was bestowed *honoris causa* :

## DOCTOR OF LAWS,

THOMAS HUGHES, Q. C.

## ORDER OF RECITATIONS.

FIRST HALF-YEAR, 1880-81.

## SECOND-DAY.

	9.35-10.35		11-12	2-3	3-4
SENIORS.....	Latin.	.....	Philology.	Mechanics.	German.
JUNIORS.....	Anal. Geom.	.....	Latin.	.....	Rhetoric.
			<i>Physics.</i>		
SOPHOMORES.	Ethics.	.....	Greek.	.....	Trigonom., or
			<i>Physics.</i>		Surveying
FRESHMEN....	Latin.	.....	Geometry.	.....	Zoology.

## THIRD-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Butler.	Hebrew.	French.	.....	Psychology.
			<i>Engineering.</i>		
JUNIORS.....	Logic.	Hebrew.	Latin.	<i>Greek.</i>	Anal. Chem.
			<i>Physics.</i>		
SOPHOMORES.	Trigonom., or	.....	Greek.	.....	Latin.
	Surveying.		<i>Physics.</i>		<i>Anal. Chem.</i>
FRESHMEN....	Latin.	.....	Zoology.	.....	Geometry.

## FOURTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Latin.	Greek.	Physics.	History.	.....
		<i>Mechanics.</i>			
JUNIORS.....	Anal. Geometry.	.....	Rhetoric.	.....	German.
SOPHOMORES.	History.	.....	Latin.	.....	Nat. Philos.
			<i>Zoology.</i>		<i>German.</i>
FRESHMEN....	Latin.	.....	Geometry.	Greek.	<i>Nat. Philos.</i>

## FIFTH-DAY.

	8.30-9.30	9-10	9.30-10.30	2-3	3-4
SENIORS.....	<i>Eng. Bible.</i>	Greek Test.	.....	Greek.	Psychology.
JUNIORS.....	<i>Eng. Bible.</i>	Greek Test.	<i>Greek.</i>	.....	Anal. Geom.
SOPHOMORES.	Gr. Test & E. Bible.	.....	Drawing.	<i>Mech. Draw.</i>	Nat. Philos.
	<i>Eng. Bible.</i>		<i>Mech. Draw.</i>		
FRESHMEN....	<i>Eng. Bible.</i>	.....	Drawing.	.....	Greek.
					<i>Nat. Philos.</i>

## SIXTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	French.	Physics.	History.	Astronomy.	Butler.
		<i>Engineering.</i>			
JUNIORS.....	German.	.....	Greek.	.....	Anal. Chem.
			<i>Desc. Geom.</i>		
SOPHOMORES.	<i>German.</i>	Latin.	Nat. Philos.	.....	Greek.
			<i>Zoology.</i>		<i>Anal. Chem.</i>
FRESHMEN....	Geometry.	.....	Greek.	.....	Rhetoric, or
			<i>Nat. Philos.</i>		History.

## SEVENTH-DAY.

	8.35-9.30	9.30-10.25	10.25-11.20
SENIORS.....	Astronomy.	French.	German.
JUNIORS.....	Geology.	.....	Greek.
			<i>Desc. Geometry.</i>
SOPHOMORES	.....	Trigonom., or	Ethics.
		Surveying	
FRESHMEN....	Rhetoric, or	Latin.	
	History.		

# Order of Recitations.

## SECOND HALF-YEAR, 1881.

### SECOND-DAY.

	9.30-10.30	11-12	2-3	3-4
SENIORS.....	Anglo Saxon.	History.	French.	Anatomy.
JUNIORS.....	French.	Latin.		Astronomy.
	<i>Calculus.</i>	<i>Organic Chemistry.</i>		
SOPHOMORES.....	Ethics.	Greek.		Latin.
		<i>Organic Chemistry.</i>		<i>Astronomy.</i>
FRESHMEN.....	Latin.	Algebra.		History.

### THIRD-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Psychology.	Greek.	French.		German.
		Mechanics.	Astronomy.		
JUNIORS.....	Greek.		Latin.	French.	Logic or Psychology.
	<i>Mechanics.</i>		<i>Organ. Chem.</i>		
SOPHOMORES.....	Trigonometry		Greek.		Mineralogy or Geology.
			<i>Organ. Chem.</i>		
FRESHMEN.....	Latin.		Physiography or Botany.		Algebra.

### FOURTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....		History.	German.		Anatomy.
JUNIORS.....	Astronomy.			Polit. Science.	German.
SOPHOMORES.....	Greek.		History.		Chemistry.
	<i>Astronomy.</i>				<i>German.</i>
FRESHMEN.....	History.		Algebra.	Greek.	

### FIFTH-DAY.

	8.30-9.30	9-10	9.30-10.30	2.30-3.30	3-4
SENIORS.....		Greek Test.		Hebrew.	Latin.
		<i>Eng. Bible.</i>			<i>Engineering.</i>
JUNIORS.....		Greek Test.		Hebrew.	Psychology.
		<i>Eng. Bible.</i>			
SOPHOMORES.....	Gr. Tes. & E Bible.		Drawing.		Chemistry.
	<i>Eng. Bible.</i>		<i>Mech. Draw.</i>		<i>Mech. Draw.</i>
FRESHMEN.....	Eng. Bible.		Drawing.		Greek.
					<i>Chemistry.</i>

### SIXTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	History.	Mechanics.	Latin.	Engineering.	Psychology.
				Mechanics.	
JUNIORS.....	Astronomy.	French.	German.		Polit. Science
	<i>Organ. Chem.</i>	<i>Mechanics.</i>			
SOPHOMORES.....		Latin.	German.		Trigonometry.
	<i>Astronomy.</i>				<i>Astronomy.</i>
FRESHMEN.....	Greek.		Algebra.		Physiography or Botany.
	<i>Chemistry.</i>				

### SEVENTH-DAY.

	8.35-9.30	9.30-10.25	10.25-11.20.
SENIORS.....	French.	Greek.	History.
	<i>Astronomy.</i>		
JUNIORS.....	Greek.		<i>Calculus.</i>
			French.
SOPHOMORES.....		Trigonometry.	Ethics.
FRESHMEN.....		Latin.	Latin.





CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
**1881—82.**

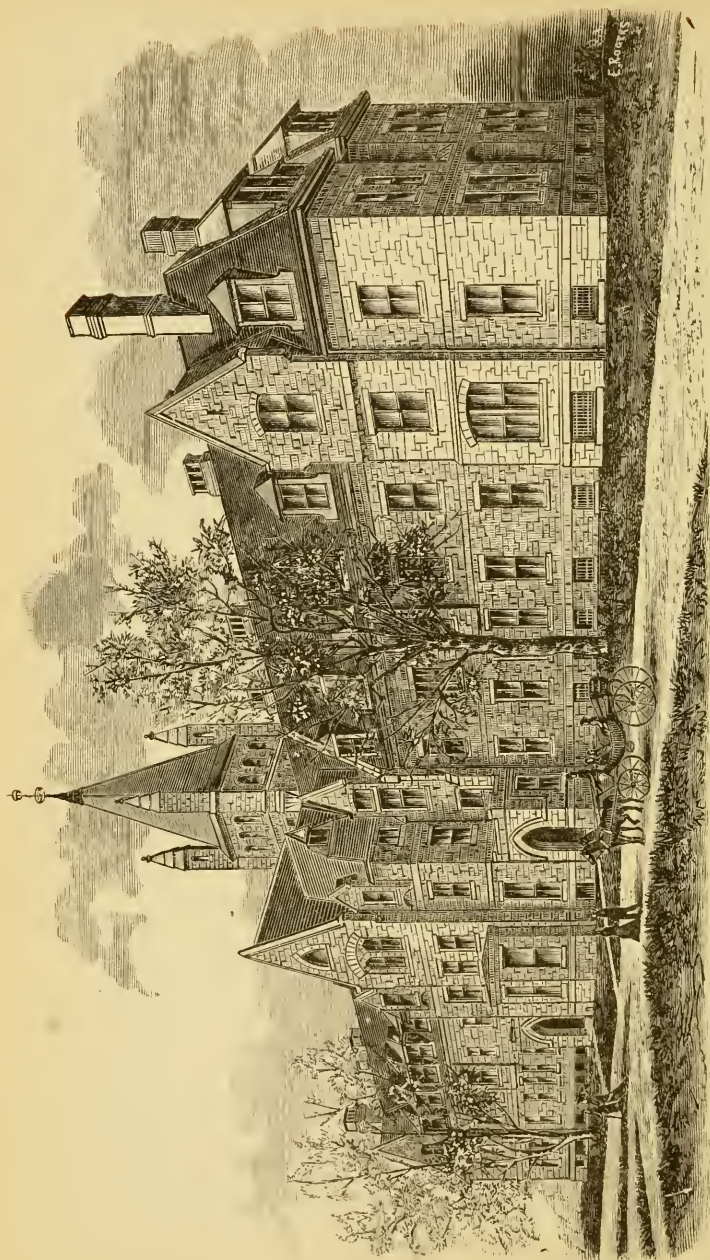


PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1882.









BARCLAY HALL.

CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1881-82.



PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1882.

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8 N. Front St., Philadelphia.

*Treasurer,*

DAVID SCULL, JR.,  
125 Market St., Philadelphia.

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T. WISTAR BROWN,  
JAMES WHITALL,  
HUGH D. VAIL,  
JAMES CAREY THOMAS,  
BENJAMIN V. MARSH,  
PHILIP C. GARRETT,  
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WILLIAM PENN EVANS,  
JOHN T. MORRIS.

*Secretary of the Board,*

EDWARD BETTLE, JR.,

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*Executive Committee.*

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DAVID SCULL, JR.,  
EDWARD L. SCULL,

EDWARD BETTLE, JR.,  
RICHARD CADBURY,  
PHILIP C. GARRETT  
CHARLES ROBERTS.

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FACULTY.

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THOMAS CHASE, LL.D., PRESIDENT,  
AND PROFESSOR OF PHILOLOGY AND LITERATURE.

PLINY EARLE CHASE, LL.D.,  
PROFESSOR OF PHILOSOPHY AND LOGIC,  
AND IN CHARGE OF THE DISCIPLINE.

ALLEN CLAPP THOMAS, A.B., PREFECT,  
AND PROFESSOR OF RHETORIC, POLITICAL SCIENCE, AND HISTORY.

ISAAC SHARPLESS, S.B.,  
PROFESSOR OF MATHEMATICS AND ASTRONOMY.

LYMAN BEECHER HALL, Ph.D.,  
JOHN FARNUM PROFESSOR OF CHEMISTRY AND PHYSICS.

FRANCIS GREENLEAF ALLINSON, Ph.D.,  
ASSISTANT PROFESSOR OF GREEK AND LATIN.

JOSEPH RHOADS, JR., A.B.,  
INSTRUCTOR IN NATURAL HISTORY, AND CURATOR OF THE MUSEUM.

---

SAMUEL JACQUES BRUN, S.B.,  
INSTRUCTOR IN FRENCH.

ALFRED GREELEY LADD, A.M., M.D.,  
INSTRUCTOR IN PHYSICAL TRAINING AND DIRECTOR OF THE GYMNASIUM.

CHARLES M. BURNS, JR.,  
INSTRUCTOR IN DRAWING.

WILLIAM HENRY COLLINS, S.B.,  
ASSISTANT IN THE ASTRONOMICAL OBSERVATORY.

WALTER FERRIS PRICE, A.B.,  
ASSISTANT LIBRARIAN.

## RESIDENT GRADUATES,

*Candidates for the Degrees of A. M. and S. M.*

JOSEPH RHOADS, JR.,

WALTER FERRIS PRICE,

WILLIAM HENRY COLLINS.

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SENIOR CLASS.

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CLASSICAL SECTION.

BARTON, GEORGE A., . . .	E. Farnham, Province Quebec, Canada.
COX, ISAAC MILTON, . . .	Lawrence, Kan.
HAZARD, RICHARD BOWNE, .	North Ferrisburgh, Vt.
JONES, WILMOT RUFUS, . .	South China, Me.
LEEDS, WILMER PANCOAST, .	Camden, N. J.
MORGAN, JESSE HENLEY, . .	Oskaloosa, Iowa.
RANDOLPH, EDWARD, . . .	Philadelphia, Pa.

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SCIENTIFIC SECTION.

COFFIN, JOHN ELIHU, . . .	Fairmount, Kan.
CORBIT, DANIEL, . . . . .	Odessa, Del.
CROSMAN, GEORGE LORING, .	Swampscott, Mass.
GAMBLE, ELISHA, . . . . .	East Carmel, O.
JONES, FREDERIC DILWIN, . .	South China, Me.
PALMER, THOMAS CHALKLEY, JR.,	Media, Pa.
WINSTON, LINDLEY MURRAY, .	Richmond, Va.

## JUNIOR CLASS.

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### *CLASSICAL SECTION.*

BLANCHARD, JOHN,	. . . .	Bellefonte, Pa.
BRIGGS, FRANK ELWOOD,	. .	Winthrop, Me.
EVANS, GEORGE HENRY,	. .	Indianapolis, Ind.
RHODES, RICHARD SOMERS,	. .	Aston Mills, Pa.
STUART, FRANCIS BACON,	. .	Spiceland, Ind.
THOMAS, BOND VALENTINE,	. .	Baltimore, Md.
WORTHINGTON, THOMAS KIMBER,		Baltimore, Md.

### *SCIENTIFIC SECTION.*

BAILY, WILLIAM LLOYD,	. .	Philadelphia, Pa.
COLLINS, STEPHEN WILLETS,	. .	Purchase, N. Y.
EDWARDS, DAVID WILLIAM,	. .	Spiceland, Ind.
SCULL, WILLIAM ELLIS,	. .	Philadelphia, Pa.
SHOEMAKER, SAMUEL BINES,	. .	Germantown, Pa.
SPRUANCE, JOHN SPOTSWOOD,	. .	Wilmington, Del.
WHITE, WILLIAM ALPHEUS,	. .	Red Cross, N. C.
WHITNEY, CHARLES HENRY,	. .	Bryn Mawr, Pa.
WHITNEY, LOUIS BUTLER,	. .	Bryn Mawr, Pa.



## SOPHOMORE CLASS.

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### CLASSICAL SECTION.

ALLEN, JOHN HENRY, . . .	Union Springs, N. Y.
BATES, ORREN WILLIAM, . .	Oneco, Conn.
CHASE, THOMAS HERBERT, . .	Haverford College, Pa.
ELLICOTT, WILLIAM MILTON, .	Philadelphia, Pa.
ESTES, JOSEPH STANLEY, . .	Vassalboro', Me.
FERRIS, DAVID SANDS, . . .	New York, N. Y.
HAINES, WILLIAM JONES, . .	Cheltenham, Pa.
HALL, ARTHUR DILWIN, . . .	Lynn, Mass.
JACOB, CHARLES RICHARD, . .	Salem, Mass.
JONES, SAMUEL RUFUS, . . .	West Milton, O. .
LADD, ISAAC GIFFORD, . . .	Brooklyn, N. Y.
SMITH, ALFRED PERCIVAL, . .	Germantown, Pa.
YARNALL, CHARLTON, . . .	Haverford College, Pa.

### SCIENTIFIC SECTION.

CRAIG, ANDREW CATHERWOOD,	Philadelphia, Pa.
GUMMERE, WILLIAM HENRY, .	Burlington, N. J.
HILL, LOUIS TABER, . . .	Mt. Pleasant, O.
WHITE, FRANCIS ALBERTSON, .	Baltimore, Md.

---

LIST, JOHN KILBOURNE, . . .	Wheeling, W. Va.
VAUX, GEORGE, JR., . . . .	Philadelphia, Pa.

FRESHMAN CLASS.

---

*CLASSICAL SECTION.*

BETTLE, SAMUEL, . . . . .	Camden, N. J.
HILLES, WILLIAM SAMUEL, . .	Wilmington, Del.
LEE, PHILIP, . . . . .	New Iberia, La.
MORRIS, MARRIOTT CANBY, . .	Germantown, Pa.
REEVE, AUGUSTUS HENRY, . .	Camden, N. J.
REEVE, WILLIAM FOSTER, . .	Camden, N. J.
WHITE, ELIAS HENLEY, . . .	Raysville, Ind.

*SCIENTIFIC SECTION.*

BAILY, CHARLES WINTERS, . .	Philadelphia, Pa.
BLAIR, JOHN JAY, . . . . .	High Point, N. C.
BRICK, JOSEPH COLES, . . . .	Wilmington, Del.
BROOKE, BENJAMIN, . . . . .	Radnor, Pa.
COLLINS, BENJAMIN, . . . . .	Purchase, N. Y.
DOAN, ENOS L., . . . . .	Valley Mills, Ind.
SMITH, LLOYD LOGAN, . . . .	Germantown, Pa.
WILSON, MATTHEW TERRELL, .	Spiceland, Ind.

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HILL, JOSEPH GURNEY, . . . .	Chicago, Ills.
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## SUMMARY.

Seniors, . . . . .	14
Juniors, . . . . .	16
Sophomores, . . . . .	19
Freshmen and Special Students, .	16
	<hr/>
Total of Undergraduates, .	65
Resident Graduates, . . . .	3
	<hr/>
Total, . . . . .	68

## CALENDAR.

College Year, 1881-82, began with the be-					
ginning of the Autumn Term, 1881	.	9th Mo.	14.		
Winter Recess began.	.	12th Mo.	23.		
Winter Term began,* 1882	.	1st Mo.	3.		
Mid-year Examinations, began	.	1st Mo.	25.		
Second Half-year began	.	2d Mo.	1.		
Oration before the Loganian Society	.	4th Mo.	13.		
Junior Exercises, 6th Day,	.	4th Mo.	14.		
Spring Recess begins.	.	4th Mo.	14.		
Spring Term begins*	.	4th Mo.	24.		
Public Orations for the Prize	.	5th Mo.	26.		
Public Meeting of the Loganian Society	.	6th Mo.	19.		
Address before the Alumni	.	6th Mo.	20.		
Address to the Graduating Class	.	6th Mo.	21.		
Commencement Day, 1882,	.	6th Mo.	21.		
Examinations for Admission, 2 P.M.,	.	6th Mo.	21.		

## VACATION OF TWELVE WEEKS.

Examinations for Admission, 9 A. M.,	.	9th Mo.	12.		
College Year, 1882-83, begins*.	.	9th Mo.	13.		
Winter Recess begins.	.	12th Mo.	23.		
Winter Term begins,* 1883,	.	1st Mo.	2.		
Second Half-year begins	.	1st Mo.	31.		
Spring Recess begins	.	4th Mo.	13.		
Commencement Day, 1883,	.	6th Mo.	20.		

\* The first recitations are due promptly at *half-past nine o'clock* at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

## REQUISITES AND TERMS OF ADMISSION.

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CANDIDATES for admission to the Freshman Class in the CLASSICAL COURSE, will be examined as to their proficiency in the following requisites:

CLASSICS.—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in *Latin and Greek Grammar*, to be tested, in part, by *writing* sentences in Latin and Greek; acquaintance with Prosody, to be proven by *scanning verses* from Virgil; and ability to give, after an hour's study, with the aid of a Lexicon, a literal *translation of a passage not before read* by the candidate, both in Latin and Greek prose or verse, equal in amount to fifty hexameter lines, and to apply the proper rules of Syntax to the constructions of that passage.

Candidates are recommended to pursue the course of study in Greek and Latin which is prescribed in the requisitions for admission to the New England colleges; but the object aimed at is that the applicant shall possess a sufficient knowledge of both languages to enable him to pursue, with facility and advantage, the studies of the Freshman year. Teachers are advised to exercise their pupils from the very first in *writing* both Greek and Latin.

MATHEMATICS.—*Arithmetic*, including the *Metric System*; *Algebra*, to Quadratic Equations; *Geometry*, in the first four books of Sharpless's *Geometry*, or their equivalents.

ENGLISH.—*Spelling*, *Grammar*, *English Composition*, *Civil Geography*, *Physical Geography*, the elements of *Greek and Roman History* (as in Pennell's *Elements*, or their equiva-

lents), and the *History of the United States*. The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics. Acquaintance with the elements of the *History of England* will be found advantageous.

DRAWING.—Practice in Free Hand Drawing, from childhood up, is earnestly recommended as an important part of the preparation for advanced studies.

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Classical Course, except in the Greek language, and will also be examined in the elements of *Physics* and of *Botany*.

Satisfactory examination-papers, written under proper supervision at first-class schools, and forwarded to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and also on subsequent examination thoroughly fitted in all the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that "the College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismissal in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to President THOMAS CHASE, LL.D., Haverford College P. O., Montgomery Co., Pa. Candidates will present themselves at Founders' Hall, for examination by the Faculty, *at 2 o'clock on Commencement-day, or at 9 o'clock on the morning previous to the beginning of the College term* at which they desire to enter.

The price of Board and Tuition (together with fuel, lights, and all necessary furniture and service), is \$425.00 per annum, payable to the Prefect, one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students who dine at the College, the annual charge is \$250.00.

There is a telegraph office at the College Station, and there are also Adams's Express and U. S. Money-order offices at Bryn Mawr, Montgomery Co., Pa., one mile from the College.

For further information, and for circulars and catalogues, address Professor ALLEN C. THOMAS, Prefect, Haverford College, Montgomery Co., Pa.

## COURSES OF INSTRUCTION.

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CLASSICAL COURSE.

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## FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
2. *Mathematics*. Sharpless's Geometry; Greenleaf's University Algebra. Four hours a week.
3. *Greek*. Xenophon's Hellenica, or an equivalent; Herodotus; Homer; Review of Greek Grammar; Translations at sight.
4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.
5. *Latin*. Livy (Chase); The Odes of Horace, Books I and II (Chase); Review of Latin Grammar; Translations at sight.
6. *Latin Prose Composition*. Bennett. Subjects 5 and 6, four hours a week.
7. *Rhetoric and Composition*. One hour a week.
8. *History*. History of Greece; Leighton's History of Rome; Chronology.
9. *Zoology*. *Hygiene*. *Physiography*. *Botany*. Subjects 8 and 9, three hours a week.
10. *Drawing*. Free Hand Drawing from Objects. One hour a week.

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SOPHOMORE CLASS.

1. *Scripture*. The New Testament (English and Greek). One hour a week.



2. *Mathematics*. Gummere's Trigonometry and Surveying, with Field Practice; Wheeler's Plane and Spherical Trigonometry; Higher Algebra. Three hours a week.

3. *Greek*. The Iliad and Odyssey of Homer; Plato's Apology and Crito, or Phaedo; The Prometheus of Æschylus, or The Medea of Euripides; Translations at sight.

4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin*. Horace, Books III and IV of the Odes; Satires and Epistles (Chase); The Germania and Agricola of Tacitus; Translations at sight.

6. *Latin Prose Composition*. Abbott. Subjects 5 and 6, three hours a week the first half year, two hours the second.

7. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity.

8. *Rhetoric and English Literature*. Lives and Works of English Authors; Whately's Rhetoric, Part III. Subjects 7 and 8, three hours a week.

9. *Physics*. Natural Philosophy; Lectures. Three hours a week the first half year.

10. *Chemistry*. Eliot and Storer's Chemistry; Lectures. Three times a week the second half year.

11. *Mineralogy and Geology*. Dana's Manual and Text Book. One hour a week the second half year.

12. *Drawing*. Free Hand Drawing from Objects. One hour a week.

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## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

2. *Mathematics*. Peck's Analytical Geometry. Three hours a week the first half year.

3. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

4. *Greek*. Thucydides; The Antigone of Sophocles; Exercises in writing Greek. Two hours a week.

5. *Latin*. Cicero's Tusculan Disputations and Somnium Scipionis (Chase); Pliny's Letters; The Captives of Plautus; Exercises in writing Latin. Two hours a week.

6. *German*. Whitney's Grammar, Exercises, and Reader; Schiller, or an equivalent. Two hours a week.

7. *Geology*. Dana's Text-Book (finished).

8. *Rhetoric*. Whately's Rhetoric; Themes.

9. *Political Science*. Political Economy; International Law; Constitution of the United States; Cooley's Principles of Constitutional Law; Forensics. Subjects 7, 8, and 9, four hours a week the first half year, one hour a week the second.

10. *History*. Church's Beginning of the Middle Ages, or Johnson's Normans in Europe.

11. *Logic*. Whately and Hamilton.

12. *Psychology*. Haven's Mental Philosophy (begun). Subjects 11 and 12, three hours a week the second half year.

13. *Elocution*. Rehearsals for Public Exhibition.

14. *Drawing*. (For students who have not attained a sufficient proficiency, or as a voluntary study for others.) One hour a week.

#### ELECTIVE STUDIES.

(Two hours a week to be selected.)

1. *Descriptive Geometry, Shades and Shadows, and Perspective*. Two hours a week the first half year.

2. *Chemistry*. Qualitative Analysis; Laboratory Practice. Four and a half hours a week the first half year, counting as two hours of recitation.

3. *Mathematics*. Peck's Differential and Integral Calculus. Two hours a week the second half year.

4. *French*. Knapp's or Otto's Grammar; Fénelon's Télémaque; Histoire de Charles XII; Exercises. Three hours a

week the second half year, counting as two hours. (Students sufficiently advanced may recite in French with the Senior Class.)

5. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.

## SENIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament continued. One hour a week.

2. *Latin and Classical Literature*. Chase's Selections from Juvenal; Cicero's Letters; Latin Lyrics; The Ancient Pronunciation of Latin; Latin Composition; History of the Literatures of Greece and Rome. Two hours a week.

3. *French*. Grammar, Translation, and Exercises. (Required in lieu of one of the elective studies, of those members only of the Senior Class who have not previously studied French.) Three hours a week the second half year, counting as two hours.

4. *Anglo-Saxon*. One hour a week the second half year.

5. *Philology, etc.* Keary's Dawn of History. One hour a week the first half year.

6. *Psychology*. Haven continued; Porter's Human Intellect; Lectures. Two hours a week the first half year.

7. *Natural and Revealed Religion*. Butler's Analogy. Two hours a week the first half year.

8. *Christian Doctrines*. Barclay and Gurney. One hour a week the second half year.

9. *English*. Philological Study; History of the English Language; Themes. One hour a week the second half year.

10. *History*. Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Arnold's Lectures on Modern History; Seebohm's Protestant Revolution. Two hours a week.

11. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.

12. *Elocution and Composition.* A Public Oration at Commencement.

ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Mechanics.* Smith's Analytical Mechanics. Two hours a week.

2. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory. Two hours a week. (Courses 1 and 2 are open only to those who have studied Calculus in the Junior year.)

3. *Physics.* Acoustics; Optics; Electricity. Two hours a week.

4. *Classical Philology, and Greek.* Demosthenes on the Crown, or an Equivalent; Greek Pastoral and Lyric Poets; Greek Composition; Papillon's Greek and Latin Inflections; Peile's Greek and Latin Etymology, with Curtius, Vaniček, and Corssen for reference; Curtius's and Roby's Grammars for reference; Inscriptions. Two hours a week.

5. *Psychology.* Berkeley; Porter (continued). Two hours a week the second half year.

6. *Ecclesiastical History.* Neander or Smith.

7. *German.* Heyse's Die Einsamen, or an equivalent in prose; Schiller's Wallenstein, or Jungfrau von Orleans; Review of the Grammar; Exercises. Two hours a week.

8. *French.* Sainte-Beuve or Taine; Racine; Sauveur's Entretiens sur la Grammaire; Exercises. Three hours a week, counting as two hours. (Advanced German or French may be dropped in the second half year by students who wish to take Calculus or Psychology in place of either of them.)

9. *Hebrew.* Grammar; Exercises; Translations from the Old Testament. Two hours a week.

10. *Peck's Differential and Integral Calculus.* Two hours a week the second half year.

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SCIENTIFIC COURSE.

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## FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
  2. *Mathematics*. Sharpless's Geometry; Greenleaf's University Algebra. Four hours a week.
  3. *Latin*. Livy (Chase); Horace (Chase); Review of Latin Grammar; Translations at sight.
  4. *Latin Prose Composition* (Bennett). Subjects 3 and 4, four hours a week.
  5. *Rhetoric and Composition*. One hour a week.
  6. *Physics*, Natural Philosophy; Lectures. Three hours a week the first half year.
  7. *Chemistry*. Eliot and Storer; Lectures. Three times a week the second half year.
  8. *History*. History of Greece; Leighton's History of Rome; Chronology.
  9. *Zoology, Hygiene, Physiography, Botany*. Subjects 8 and 9, three hours a week.
  10. *Drawing*. Free Hand Drawing from Objects. One hour a week.
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## SOPHOMORE CLASS.

1. *Scripture*. The New Testament. One hour a week.
2. *Mathematics*. Gummere's Trigonometry and Surveying, with Field Practice; Wheeler's Plane and Spherical Trigonometry; Higher Algebra. Three hours a week.

3. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

4. *German*. Whitney's Grammar, Exercises, and Reader; Schiller (or an equivalent). Two hours a week.

5. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity.

6. *Rhetoric and English Literature*. Lives and Works of English Authors; Whately's Rhetoric, Part III. Subjects 5 and 6, three hours a week.

7. *Chemistry*. Qualitative Analysis; Laboratory practice. Three times a week, the first half year, counting as two hours.

8. *Chemical Philosophy*. Two hours a week the second half year.

9. *Physics*. Tyndall on Heat. Two hours a week the first half year.

10. *Mineralogy and Geology*. Dana's Manual and Text-Book. One hour a week the second half year.

11. *Natural History*. Advanced Zoology and Biology. Two hours a week the first half year.

12. *Drawing*. Mechanical Drawing from Objects, Geometrical Solids, etc.; Isometric and Perspective Drawing. Three hours a week, counting as one hour.

\* \* Latin or French may be taken in the place of Natural History.

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## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible; or the Greek Testament (for students having a sufficient knowledge of Greek). One hour a week.

2. *Mathematics*. Peck's Analytical Geometry; Peck's Differential and Integral Calculus. Three hours a week.

3. *Mathematics*. Descriptive Geometry; Isometric Projection, Shades and Shadows, and Perspective; Peck's Mechanics. Two hours a week.

4. *German*. Heyse's *Die Einsamen*, or an equivalent of prose; Schiller's *Wallenstein*, or *Jungfrau von Orleans*; Review of the Grammar; Exercises. Two hours a week.

5. *French*. Knapp's or Otto's Grammar; Fénelon's *Télémaque*; *Histoire de Charles XII*; Exercises. Three hours a week the second half year, counting as two hours.

6. *Geology*. Dana's Text-Book (finished).

7. *Rhetoric*. Whately's Rhetoric; Themes.

8. *Political Science*. Political Economy; International Law; Constitution of the United States; Cooley's Principles of Constitutional Law; Forensics. Subjects 6, 7, and 8, four hours a week the first half year, one hour the second.

9. *History*. Church's Beginning of the Middle Ages, or Johnson's Normans in Europe.

10. *Logic*. Whately and Hamilton.

11. *Psychology*. Haven's Mental Philosophy (begun). Subjects 10 and 11, three hours a week the second half year.

12. *Physics*. Acoustics; Optics; Electricity. Two hours a week. (The class of 1882 will study Tyndall on Heat and Chemical Philosophy in place of this course.)

13. *Elocution*. Rehearsals for Public Exhibition.

14. *Drawing*. Mechanical Drawing from Objects; Isometric and Perspective Drawing, Shadows, etc. Five hours a week, counting as two hours.

#### ELECTIVE STUDIES.

(One subject to be selected.)

1. *Chemistry*. Qualitative and Quantitative Analysis. Twice a week the first half year.

2. *Advanced Geology and Mineralogy*. Lyell; Dana. Two hours a week the first half year.

3. *Elementary Greek*. Grammar and Xenophon; Greek Testament; Scientific Nomenclature. Two hours a week the first half year.

4. *Latin*. Cicero's Tusculan Disputations, etc. Two hours a week the first half year.

## SENIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible, or Greek Testament. One hour a week.

2. *Mathematics*. Smith's Analytical Mechanics. Two hours a week.

3. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory. Two hours a week.

4. *French*. Sainte-Beuve or Taine; Racine; Sauveur's *Entretiens sur la Grammaire*; Exercises. Three hours a week, counting as two hours.

5. *Anglo-Saxon*. One hour a week the second half year.

6. *Philology, etc.* Keary's Dawn of History. One hour a week the first half year.

7. *Psychology*. Haven's (continued); Porter's Human Intellect; Lectures. Two hours a week the first half year.

8. *Natural and Revealed Religion*. Butler's Analogy. Two hours a week the first half year.

9. *Christian Doctrines*. Barclay and Gurney. One hour a week the second half year.

10. *English*. Philological Study; History of the English Language; Themes. One hour a week the second half year.

11. *History*. Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Arnold's Lectures on Modern History; Seeböhm's Protestant Revolution. Two hours a week.

12. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.

13. *Composition and Elocution*. A Public Oration at Commencement.



## ELECTIVE STUDIES.

(One study to be selected.)

1. *Experimental Physics*. Physical Measurements. Twice a week. (Open to such students as have shown a marked proficiency in the Chemical Laboratory.)
2. *Chemistry*. Analysis, and other experimental practice.
3. *Civil and Sanitary Engineering*. Mahan, Henck, Latham; Field Practice. Two hours a week.
4. *Psychology*. Berkeley; Porter (continued); Lectures. Two hours a week the second half year. (May be substituted for French.)
5. *Ecclesiastical History*. Neander or Smith.
6. *Greek*. Homer; History of Greek Literature. Two hours a week.
7. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.
8. *Drawing*. (As a *voluntary* extra study.)

## LECTURES.

The Lectures and Courses of Lectures for the year 1881-82 are as follows:—

- The Foundations of Morality*, PROF. P. E. CHASE.  
*Steps to the Stars*, . . . PROF. P. E. CHASE.  
*The Theory of Book-keeping*, PROF. THOMAS.  
*Washington's Place in the  
 History of the English  
 People*, . . . . . EDWARD A. FREEMAN, D.C.L.  
*The Origin, Use, and Abuse  
 of the English Language*, EDWARD A. FREEMAN, D.C.L.  
*Astronomy*, . . . . . PROF. SHARPLESS.  
*The Rhine*, . . . . . JAMES WOOD.  
*The Christian Ministry*, . JAMES E. RHOADS, M.D.  
*Business Ethics*, . . . CHARLES RHOADS.

## EVENING READINGS.

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Evening Readings, consisting chiefly of selections from ancient and modern classics, are given frequently during the year. The attendance is voluntary.

The course for the year 1881-82 is:—

<i>The Clouds of Aristophanes,</i> . . .	PRESIDENT CHASE.
<i>Ben Jonson and his Contemporaries,</i>	
<i>Ballads, and Chaucer,</i> . . . .	PROF. THOMAS.
<i>Lucian, and Œdipus Rex,</i> . . .	ASST. PROF. ALLINSON.

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## VOLUNTARY GERMAN AND FRENCH CLASSES.

Reading and Conversation Classes, both in German and in French, are held on certain evenings in the week.

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## EXAMINATIONS.

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In determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are written examinations of each class in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts or that of Bachelor of Science. These examinations are calculated to test as accurately as possible the scholarly habits of the students, and the attainments which they have made.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds, on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. But no student is entitled to such advancement, whatever his numbers or rank, unless, in the judgment of his instructors and caretakers, he has been faithful in his daily studies and satisfactory in his character and conduct.

The *viva voce* examinations are made in the daily recitations. Marks are given for each recitation attended; but special examinations are frequently used as an element in determining them. The average of these marks is combined with the average obtained in the semi-annual examinations, to find a student's rank.

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## ADVANCED DEGREES.

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BACHELORS OF ARTS of three years' standing may take the degrees of MASTER OF ARTS, and BACHELORS OF SCIENCE of three years' standing may take the degree of MASTER OF SCIENCE, on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an examination on some literary or scientific course of study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate courses of study to be presented by candidates for the second degree :

I. The whole of the New Testament in Greek, with Winer's or Buttmann's *N. T. Grammar*, Grimm's *Lexicon*, and Scrivener's *Introduction*.

II. The whole of Thucydides, together with Grote and Curtius on the Peloponnesian War.

III. Ten Tragedies of Æschylus, Sophocles, or Euripides.

IV. Cicero's *Tusculan Disputations* (five books), *De Natura Deorum*, and *De Officiis*, together with the *History of Ancient Philosophy*.

V. The whole of Tacitus, together with Merivale.

VI. Gervinus's *History of Modern Europe*, or Schiller's *History of the Thirty Years' War*, and *Wallenstein* (all the parts), in the original German; together with a thorough examination in the nicer points of German Grammar and composition, and in translation at sight, both from German (not before read) into English, and from English into German.

VII. The *Nicomachean Ethics of Aristotle* (in the original); Jouffroy's *Introduction to Ethics*, and Whewell's *Ethics*.

VIII. Greek Literature, with translation at sight from any of the leading authors, and a short original essay in Greek on some topic connected with this subject.

IX. *Thermodynamics*.

X. *Theoretical Astronomy* (Watson and Gauss).

XI. *Practical Astronomy* (Chauvenet).

XII. Rankine's *Applied Mechanics*, or Rankine's *Civil Engineering*.

XIII. Freeman's *History of the Norman Conquest*, Green's larger *History of England*, and Stubbs's, Hallam's, and May's *Constitutional Histories*.

XIV. American History (Bancroft, Hildreth, Parkman, Frothingham's *Rise of the Republic*, Curtis's *History of the Constitution*, Von Holst's *Constitutional History of the United States*, *The Federalist*).

XV. *Comparative Philology* (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Benfey, Fick, Leo Meyer, Pezzi). Some knowledge of Sanskrit will be expected of candidates in this course.

Candidates who are examined may also, if they desire, hand in Dissertations on topics in their field of study which they have specially investigated.

Resident Graduates, who have completed an adequate

course of study, may be admitted to an examination for a second degree before the expiration of three years, if the Faculty deem it proper.

Masters of Arts and Science may be examined for the degrees of DOCTOR OF PHILOSOPHY and DOCTOR OF SCIENCE; but such degrees will be conferred only after satisfactory proof of the faithful and successful prosecution of courses of study fully equal in extent and quality to those required for similar honors in the best Universities.

Notice of application for examination must be given to the Prefect two months before Commencement. The examinations will be held the last week in the Fifth month, and no later. The fee for the Diploma of the Second Degree is Twenty Dollars, of subsequent degrees Thirty Dollars, to be paid to the Prefect in all cases before the 10th of the Sixth month.

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## Alumni Prize

### For Composition and Oratory.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE of a Gold Medal, or of Books of equal value, for excellence in Composition and Oratory.

The prize was awarded last year to JOHN CLARK WINSTON, of the class of 1881, for his oration on "Alexander Hamilton."

The following are the Regulations governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five judges shall be appointed from year to year by the Alumni Committee, who shall, on the evening of the last Sixth day in the Fifth month, hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No Oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

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## LIBRARY.

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LIBRARIAN, Professor Allen C. Thomas; Walter F. Price, *Assistant*. COMMITTEE in charge of the Library, Richard Wood, *Chairman*; Benjamin V. Marsh, Philip C. Garrett, Charles Roberts, Edward Bettle, Jr., Edward L. Scull, Howard Comfort.

The number of bound volumes in the Library Hall, accessible to the members of the College, is 13,205. Of these the LIBRARY OF HAVERFORD COLLEGE contains 8975 volumes; that of the LOGANIAN SOCIETY 2403; those of other societies 1827. Numerous American and European periodicals, scientific and literary, are taken in by the Library.

A collection of the magnificent plates of Piranesi's Views of Rome was presented in 1881 by William S. Vaux.

A fund of ten thousand dollars has been contributed, the income of which is devoted to the increase of the Library.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves may be freely consulted.

A CARD CATALOGUE of the College and the Society Libraries shows at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

## MUSEUM, LABORATORIES, AND APPARATUS.

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THE MINERALOGICAL COLLECTION contains over 3000 specimens, including the collection of the late Dr. Troost. The GEOLOGICAL CABINET comprises about 2500 specimens, and contains complete suits illustrating the Geology of New York and South Carolina, prepared for the College by the late Lardner Vanuxem. Collections of fossils and of shells were purchased in 1879. Donations have been received in 1880 from the State Geological Survey, and in 1881 from William S. Vaux.

The cabinets of Natural History which belonged to the Loganian Society have been presented to the College. A large and very valuable collection of Birds has been given by David Scull, Jr., to which the Hannah W. Scull collection of birds' eggs is a valuable adjunct. Some excellent specimens have been received from Benjamin V. Marsh.

The Museum has received, from Charles C. Cresson, specimens of about three hundred species of American phænogams, chiefly of the compositæ and the sedge family; a number of cryptogams, comprising ferns, mosses, and sea-weeds, native and foreign, and about two hundred European plants of the higher orders.

A set of classic models, made by Auzoux, of Paris, exhibiting by dissection the actual appearance and anatomy of the minute, as well as the larger organs of the human body, and of interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY, also a collection of casts of FOSSIL SPECIES in Natural History, made by Professor Ward, of Rochester, have been presented to the Museum by Richard Wood.

Extensive APPARATUS is furnished for the illustration of Natural Philosophy and Chemistry.

The CHEMICAL LABORATORY is commodious, and thoroughly furnished with the most approved appliances; and the PHYSICAL LABORATORY is well adapted for its purpose.

The Gymnasium was refitted early in 1881 with the apparatus of Dr. D. A. Sargent, Director of the Hemenway Gymnasium of Harvard University. A competent teacher, a graduate of Bowdoin College in Arts and Medicine and a pupil of Dr. Sargent has direction of it, and gives systematic instruction, based upon careful personal examination, to each student desiring such aid.

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## ASTRONOMICAL OBSERVATORY.

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THE HAVERFORD OBSERVATORY affords the students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains an Equatorial Telescope, with an object glass of  $8\frac{1}{4}$  inches aperture, and a focal length of 11 feet, furnished with a filar micrometer, a ring micrometer, and 12 eye-pieces; a Newtonian Reflector with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Meridian Transit Circle, having a telescope of 4 inches aperture and 5 feet focal length, with a circle at each end of the axis 26 inches in diameter, one reading by 4 verniers to 2", the other used simply as a finder; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; 2 Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 36.5''$  N.; its longitude,  $5^{\text{h}} 1' 12.75''$  West from Greenwich.



## SOCIETIES.

THE LOGANIAN SOCIETY was established by the Officers and Students, in 1834. The exercises in its meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN." It has in its possession a carefully selected Library of 2403 volumes, and a cabinet of medals and coins.

THE ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 1827 volumes.

## SITUATION OF THE COLLEGE.

THE College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST-OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County*, Pa. The buildings are surrounded by grounds of upwards of sixty acres, tastefully laid out, and adorned with a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base-ball, foot-ball, archery, and lawn-tennis.

THE FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; and BARCLAY HALL in 1876-77. Barclay Hall, a beautiful edifice of granite, 220 by 40 feet, contains the private studies and dormitories. It is furnished with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining room, recitation-rooms, and Museum are in the Founders' Hall, which was remodelled internally in 1878.

## INSTRUCTION AND DISCIPLINE.

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The Courses of Instruction at Haverford, aiming at thorough and generous training, embrace the standard studies proved by long experience to be the most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent times. Both courses are designed to give a broad, as well as thorough culture, so that the Baccalaureate Degrees, whether in Arts or Science, may attest a comprehensive and truly liberal Education.

As the students form one household, Religious Instruction is carefully provided. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, Barclay's Apology, and Gurney's Essays, form part of the regular course of study. Loyal to all truth, Haverford College inculcates faithfully the simple and immutable truths of pure religion.

In the Discipline of the College, the officers endeavor to promote habits of diligence, order, and regularity. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and, above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.

## DEGREES GRANTED IN 1881.

At the Commencement in 1881, Degrees were granted, in course, to the following graduates :

## BACHELORS OF ARTS.

WILLIAM A. BLAIR,	EDWIN O. KENNARD,
A. MORRIS CAREY,	JESSE H. MOORE,
LEVI T. EDWARDS,	WILLIAM E. PAGE,
EDWARD Y. HARTSHORNE,	WALTER F. PRICE,
ISAAC T. JOHNSON,	THOMAS N. WINSLOW,
JOHN C. WINSTON.	

## BACHELORS OF SCIENCE.

WALTER BRINTON,  
WILLIAM H. COLLINS,  
J. HORACE COOK,  
DAVIS H. FORSYTHE,  
ALBANUS L. SMITH.

The following degree was granted in course :—

## MASTER OF ARTS.

FRANCIS KING CAREY (Class of 1878).

## PROGRAMME OF RECITATIONS

FOR THE

FIRST HALF-YEAR 1881-2.

## SECOND-DAY.

	9.30-10.30	11-12	2-3	3-4
SENIORS.....	Latin.	Philology.	Mechanics.	German.
JUNIORS.....	Anal. Geom.	Latin.		Greek.
		<i>Physics.</i>		<i>German.</i>
SOPHOMORES.	Nat. Philos.	Greek.		Surveying.
	<i>Zoology.</i>	<i>Physics.</i>		
FRESHMEN....	Greek.	Geometry.		Zoology.
	<i>Nat. Philos.</i>			

## THIRD-DAY.

	9-10	11-12	2-3	3-4
SENIORS.....	Butler.	French.	Hebrew.	Psychology.
		<i>Engineering.</i>		
JUNIORS.....	Geology.	Latin.	Anal. Chem.	Anal. Chem.
		<i>Physics.</i>		<i>Greek.</i>
SOPHOMORES.	Surveying.	Greek.		Latin.
		<i>Physics.</i>	<i>Anal. Chem.</i>	<i>Anal. Chem.</i>
FRESHMEN....	Latin.	Zoology.		Geometry.
	6.30-7.30. P. M.—Sen., Ju., So., Voluntary German.			

## FOURTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Latin.	Astronomy.	Greek.	Eccl. Hist.	History.
JUNIORS.....	Anat. Geom.		Rhetoric.	German.	Des. Geometry
SOPHOMORES.	Eng. Lit'ture.	<i>Zoology.</i>	Greek.	<i>German.</i>	Nat. Philos.
FRESHMEN....	Latin.		Geometry.		Greek.
					<i>Nat. Philos.</i>
	9-10 P. M.—Sen., Ju., So., Fr., Voluntary French.				

## FIFTH-DAY.

	8.30-9.30	9.30-10.30	11.00	2-3	3-4
SENIORS.....	French.	Scripture.	Meeting.		Butler.
	<i>Scripture.</i>				
JUNIORS.....	<i>Scripture.</i>	Scripture.	"	Anal. Chem.	Anal. Chem.
					<i>Greek.</i>
SOPHOMORES.	Drawing.	Scripture.	"	<i>Anal. Chem.</i>	
	<i>Scripture.</i>	<i>Drawing.</i>			<i>Anal. Chem.</i>
FRESHMEN....	Drawing.	Scripture.	"		Rhetoric, or History.

## SIXTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	History.	Engineer'g.	Eccl. Hist.	<i>Mechanics.</i>	Psychology.
				Greek.	
JUNIORS.....	German.		Anal. Geom.		Greek.
					<i>Des. Geometry.</i>
SOPHOMORES.	<i>German.</i>	Greek.	Ethics.		Nat. Philos.
					<i>Mech. Drawing.</i>
FRESHMEN....	Geometry.		Latin.		Greek.
					<i>Nat. Philos.</i>

## SEVENTH-DAY.

	8.35-9.30	9.30-10.25	10.25-11.20
SENIORS.....	Astronomy.	Hebrew.	German.
		French.	
JUNIORS.....		Rhetoric.	<i>German.</i>
SOPHOMORES	Ethics.		Surveying.
FRESHMEN		Latin.	History.

N. B.—When the Scientific Course differs from the Classical, the subjects of the Scientific Department are printed in italics.

## PROGRAMME OF RECITATIONS

FOR THE  
SECOND HALF-YEAR 1881-82.

## SECOND-DAY.

	9.30-10.30		11-12		2-3		3-4
SENIORS.....	Scripture.	.....	German.	.....	.....	.....	Anatomy.
JUNIORS.....	"	.....	German.	.....	German.	.....	Logic.
SOPHIOMORES...	"	.....	History, or	.....	German.	.....	Chemistry.
FRESHMEN.....	"	.....	Geology.	.....	.....	.....	Chemistry.
			Algebra.	.....	.....	.....	Greek.

## THIRD-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....	<i>Mechanics.</i>	.....	Psychology.	.....	Hebrew.	.....	German.	.....	Latin.
JUNIORS.....	Greek.	.....	.....	.....	French.	.....	.....	.....	.....
SOPHIOMORES...	<i>Mechanics.</i>	.....	.....	.....	Astronomy.	.....	German.	.....	Logic.
FRESHMEN.....	Ethics.	.....	.....	.....	<i>Physics.</i>	.....	.....	.....	Trigonom.
	Latin Prose.	.....	.....	.....	<i>Physics.</i>	.....	.....	.....	.....
					Latin.	.....	.....	.....	.....
					Physiography	.....	.....	.....	Latin.
					or Botany.	.....	.....	.....	.....
	6.30-7.30 P. M.—Sen., Ju., So.,				Voluntary German.				

## FOURTH-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....	Latin.	.....	<i>Mechanics.</i>	.....	History.	.....	<i>Engineer'g.</i>	.....	Greek.
JUNIORS.....	German.	.....	French.	.....	Astronomy.	.....	French.	.....	Calculus.
SOPHIOMORES...	<i>German.</i>	.....	Greek.	.....	<i>Astronomy.</i>	.....	.....	.....	Calculus.
FRESHMEN.....	Algebra.	.....	.....	.....	Chemistry.	.....	.....	.....	History, or
					Greek.	.....	.....	.....	Zoology.
					.....	.....	.....	.....	Latin.
	9-10 P. M.—Sen., Ju., So., Fr.,				Voluntary French.				

## FIFTH-DAY.

	8.20-9.30		9.50-10.10.		11.00.		2-3.		3-4
SENIORS.....	.....	.....	History.	.....	Meeting.	.....	Hebrew.	.....	Psychology.
JUNIORS.....	.....	.....	<i>Mechanics.</i>	.....	"	.....	French.	.....	.....
SOPHIOMORES...	.....	.....	Astronomy.	.....	"	.....	<i>Engineering.</i>	.....	.....
FRESHMEN.....	Latin.	.....	<i>Astronomy.</i>	.....	"	.....	Political Sc.....	.....	Trigonom.
	<i>Mech. Draw'g.</i>	.....	Drawing.	.....	"	.....	.....	.....	.....
	Physiography	.....	Drawing.	.....	"	.....	.....	.....	History.
	or Botany.								

## SIXTH-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....	Anglo-Saxon.	.....	Hebrew.	.....	History.	.....	.....	.....	Anatomy.
JUNIORS.....	.....	.....	Calculus.	.....	Latin.	.....	<i>Mech. Draw'g.</i>	.....	Greek.
SOPHIOMORES...	.....	.....	Hebrew.	.....	<i>Physics.</i>	.....	.....	.....	<i>Mech. Draw'g.</i>
FRESHMEN.....	Trigonometry.	.....	<i>Calculus.</i>	.....	<i>Physics.</i>	.....	<i>Mech. Draw'g.</i>	.....	<i>Mech. Draw'g.</i>
	Latin.	.....	.....	.....	Latin.	.....	.....	.....	Chemistry.
					Algebra.	.....	.....	.....	Greek.
					.....	.....	.....	.....	Chemistry.

## SEVENTH-DAY.

	8.35-9.20		9.20-10.15		10.15-11.10.
SENIORS.....	French.	.....	Greek.	.....	History.
JUNIORS.....	Astronomy.	.....	.....	.....	French.
SOPHIOMORES.....	Logic.	.....	Astronomy.	.....	Ethics.
FRESHMEN.....	.....	.....	Latin.	.....	.....
			History.	.....	Algebra.

N. B.—When the Scientific Course differs from the Classical, the subjects of the Scientific Department are printed in italics.

## LIST OF GRADUATES AND HONORARY DEGREES.

## GRADUATES.

1836.

Thomas F. Cock, M.D.  
Joseph Walton.

1837.

\*William C. Longstreth, \*1881.  
David C. Murray.  
Lindley Murray.  
Benjamin V. Marsh.  
\*Joseph L. Pennock, \*1870.  
\*Robert B. Parsons.  
Charles L. Sharpless.  
Lloyd P. Smith, A.M.  
\*B. Wyatt Wistar, \*1869.

1838.

\*James V. Emlen, M.D., \*1880.  
John Elliott.

1839.

Frederick Collins.  
Thomas P. Cope.  
Henry Hartshorne, M.D., A.M.  
Nereus Mendenhall, M.D.  
Richard Randolph, Jr., M.D.  
Charles Taber.

1840.

Joseph Howell.  
Anthony M. Kimber.  
\*Henry H. G. Sharpless, \*1870.  
\*John R. Winslow, M.D., \*1866.

1841.

\*Richard H. Lawrence.  
\*James P. Perot, \*1872.  
\*Elias A. White, \*1866.

1842.

Robert Bowne.  
Richard Cadbury.  
\*William S. Hilles, \*1876.  
Thomas Kimber, Jr.  
James J. Levick, M.D.  
Edmund Rodman.  
\*Thomas R. Rodman.  
Benjamin R. Smith.  
Augustus Taber.  
Caleb Winslow, M.D.

1843.

Robert B. Howland.  
Francis White.  
William D. Stroud, M.D.

1844.

Evan T. Ellis.  
Robert B. Haines.  
Isaac Hartshorne.

1845.

Edmund A. Crenshaw.  
\*Robert Pearsall.

1849.

Albert K. Smiley, A.M.  
Alfred H. Smiley, A.M.

1851.

Joseph I. Bailey.  
Philip C. Garrett.  
Thomas J. Levick.  
Franklin E. Paige, A.M.  
Zaccheus Test, M.D., A.M.  
James C. Thomas, M.D., A.M.  
Richard Wood.

1852.

Dougan Clark, M.D.  
 Lewis N. Hopkins.  
 William L. Kinsman.  
 William E. Newhall.  
 James Whittall.

1853.

William B. Morgan, A.M.  
 William H. Pancoast, M.D., A.M.

1854.

Frederick Arthur, Jr.  
 John W. Cadbury.  
 John B. Garrett.  
 David Scull, Jr.

1855.

\*Samuel Bettle, \*1859.  
 John R. Hubbard, A.M.

1856.

Bartholomew W. Beesley.  
 Joel Cadbury, Jr.  
 Jonathan J. Comfort, M.D.  
 \*James M. Walton, \*1874.  
 Edward R. Wood, A.M.

1857.

Jesse S. Cheyney, A.M.  
 \*Cyrus Mendenhall, \*1858.  
 Stephen Wood.

1858.

Thomas H. Burgess.  
 Thomas Clark.  
 Daniel W. Hunt.  
 \*Samuel T. Satterthwaite, \*1865.  
 William G. Tyler.  
 Thomas Wistar, A.M., M.D.  
 Ellis H. Yarnall, LL.B.

1859.

\*Richard W. Chase, \*1862.  
 James R. Magee.  
 \*Richard C. Paxson, \*1864.  
 \*Edward Rhoads, M.D., \*1871.  
 Edward C. Sampson.  
 \*George Sampson, \*1872.  
 Abram Sharples, M.D.  
 Benjamin H. Smith.

1860.

\*Lindley M. Clark, \*1861.  
 William B. Corbit, M.D.  
 William M. Corlies.  
 Cyrus Lindley.  
 Theodore H. Morris.  
 Frederick W. Morris.  
 Richard Pancoast.  
 John W. Pinkham, M.D.  
 Francis Richardson.  
 Clement L. Smith, A.M.  
 James Tyson, M.D., A.M.  
 Silas A. Underhill, LL.B.

1861.

Edward Bettle.  
 Henry Bettle.  
 Charles Bettle.  
 William B. Broomall.  
 Charles H. Jones.  
 \*Thos. W. Lamb, A.M., M.D., \*1878.  
 William N. Potts.  
 Jehu H. Stuart, A.M., M.D.  
 John C. Thomas.

1862.

Henry T. Coates.  
 \*Samuel A. Hadley, \*1864.  
 George B. Mellor.  
 Horace Williams, M.D.  
 Isaac F. Wood.

1863.

Thomas J. Battey.  
 George M. Coates, Jr., A.M.  
 William M. Coates.  
 \*Richard T. Jones, \*1869.  
 William H. Morris.  
 Joseph G. Pinkham, M.D., A.M.

1864.

Franklin Angell, A.M.  
 William Ashbridge, M.D.  
 Edward H. Coates.  
 Howard M. Cooper, A.M.  
 Albin Garrett.  
 Morris Longstreth, M.D., A.M.  
 Albert Pancoast.  
 Charles Roberts.  
 E. Pope Sampson.

Edward L. Scull.  
\*Randolph Wood, \*1876.

1865.

John R. Bringham.  
Edward T. Brown.  
James A. Chase.  
Joseph M. Downing.  
Arthur Haviland.  
\*David H. Nichols, \*1865.  
Henry W. Sharpless.  
\*George Smith, Jr., \*1872.  
Robert B. Taber, A.M.  
Allen C. Thomas.  
Benjamin A. Vail.  
Caleb Cresson Wistar.

1866.

A. Marshall Elliott, A.M.  
Benjamin E. Valentine, LL.B.

1867.

\*John Ashbridge, \*1881.  
George Ashbridge, A.M.  
William P. Clark, A.M., LL.B.  
Samuel C. Collins, A.M.  
Nathaniel B. Crenshaw.  
Charles H. Darlington, A.M.  
\*Wm. T. Dorsey, M.D., \*1870.  
B. Franklin Eshleman.  
Richard M. Jones, A.M.  
Charles W. Sharpless.  
Walter Wood.

1868.

Edward H. Cook.  
Alexis T. Cope.  
Benjamin C. Satterthwaite.  
Louis Starr, M.D.  
S. Finley Tomlinson.  
Joseph H. Wills, A.M.

1869.

Johns H. Congdon.  
Henry Cope, A.M.  
Ludovic Estes, A.M.  
\*Henry Evaul, A.M., \*1877.  
\*William B. Kaighn, \*1876.  
Pendleton King, A.M.  
William H. Randolph.  
Edward B. Taylor, M.C.E.

William S. Taylor.  
James G. Whitlock.  
Walter Wood.  
Henry Wood, Ph.D.

1870.

J. Stuart Brown.  
John E. Carey.  
Alford G. Coale.  
Howard Comfort.  
T. Allen Hilles.  
William Harrison Hubbard, M.D.  
Thomas K. Longstreth, A.M.  
Oliver G. Owen, A.M.  
Charles E. Pratt, A.M.  
David F. Rose.  
John D. Steele.  
Charles Wood, A.M.  
Stuart Wood, Ph.D.

1871.

Henry G. Brown.  
William P. Evans.  
John S. Garrigues.  
Reuben Haines, A.M.  
William H. Haines.  
Joseph Hartsborne.  
Jesse F. Hoskins.  
Walter T. Moore.  
Ellis B. Reeves.  
Alfred R. Roberts, C.E.  
Charles S. Taylor.  
Edward D. Thurston.  
Randolph Winslow, M.D., A.M.

1872.

Richard Ashbridge, M.D.  
Richard T. Cadbury, A.M.  
James Carey, Jr., LL.B.  
Thomas S. Downing, Jr.  
Walter Erben.  
Thomas Rowland Estes.  
John E. Forsythe.  
William H. Gibbons, A.M.  
Francis B. Gummere, A.M., Ph.D.  
Casper Wistar Haines, C.E.  
Abram Francis Huston.  
\*Marmaduke Cope Kimber, A.M.,  
\*1878.  
William M. Longstreth.  
Richard H. Thomas, M.D.



1873.

James C. Comfort.  
 Thomas P. Cope, Jr.  
 George W. Emlen.  
 Joseph M. Fox.  
 Henry C. Haines.  
 Benjamin H. Lowry, A.M.  
 Alden Sampson, A.M.  
 Julius L. Tomlinson.

1874.

Edward P. Allinson, A.M.  
 John G. Bullock.  
 James Emlen.  
 Charles R. Hartshorne, LL.B.  
 Samuel E. Hilles.  
 John B. Jones.  
 Mahlon Kirkbride.  
 Theophilus P. Price.  
 James B. Thompson.  
 Joseph Trotter.

1875.

Edward K. Bispham.  
 Alonzo Brown, A.M.  
 J. Franklin Davis, A.M.  
 Charles E. Haines.  
 William Hunt, Jr.  
 Charles L. Huston.  
 Harold P. Newlin.  
 Walter W. Pharo.  
 Charles E. Tebbetts.  
 Miles White, Jr.

1876.

Francis G. Allinson, A.M., Ph.D.  
 David S. Bispham.  
 Reuben Colton.  
 Henry W. Dudley.  
 Seth K. Gifford, A.M.  
 L. Lynlon Hobbs.  
 Richard H. Holme.  
 Thomas Wm. Kimber.  
 Charles A. Longstreth.  
 J. Whitall Nicholson.  
 Percival Roberts, Jr.  
 Frank H. Taylor.  
 Howard G. Taylor.  
 Lewis A. Taylor,

1877.

A.B.

Isaac W. Anderson.  
 Frederic L. Baily.  
 Isaac Forsythe.  
 James D. Krider.  
 George G. Mercer, D.C.L.  
 Wilson Townsend.

S.B.

William F. Smith.

1878.

A.B.

Henry Baily, A.M.  
 Albert L. Baily.  
 Francis K. Carey, LL.B., A.M.  
 Edward T. Comfort.  
 Charles S. Crozman.  
 Samuel H. Hill.  
 Lindley M. H. Reynolds.  
 Daniel Smiley, Jr.  
 Henry L. Taylor, M.D.  
 J. M. Whitall Thomas.  
 George W. White.

S.B.

Jonathan Eldridge.  
 Edward Forsythe.  
 Cyrus P. Frazier, A.B.  
 Robert B. Haines, Jr.  
 Henry N. Stokes.

1879.

A.B.

Samuel Bispham, Jr.  
 Edward Gibbons.  
 John H. Gifford.  
 Francis Henderson.  
 William C. Lowry.  
 John B. Newkirk.  
 John E. Sheppard, Jr., M.D.

1880.

A.B.

Charles F. Brede.  
 Charles E. Cox.  
 Josiah P. Edwards.

James L. Lynch,  
 Samuel Mason, Jr.  
 William F. Perry.  
 Joseph Rhoads, Jr.

S.B.

William Bishop,  
 Alexander P. Corbit,  
 Charles E. Gause, Jr.  
 Edward M. Jones.

1881.

A.B.

William A. Blair,  
 A. Morris Carey.

Levi T. Edwards.  
 Edward Y. Hartshorne.  
 Isaac T. Johnson.  
 Edwin O. Kennard.  
 Jesse H. Moore.  
 William E. Page.  
 Walter F. Price.  
 Thomas N. Winslow.  
 John C. Winston.

S.B.

Walter Brinton.  
 William H. Collins.  
 Joseph H. Cook.  
 Davis H. Forsythe.  
 Albanus L. Smith.

Whole number of Graduates, 314.

### HONORARY DEGREES.

1858.

Hugh D. Vail, A.M.

1859.

\*Joseph W. Aldrich, A.M., \*1865.

1860.

John G. Whittier, A.M.

1864.

Edward D. Cope, A.M.

1867.

Joseph Moore, A.M.

1872.

William Jacobs, A.M.

1875.

Samuel Alsop, Jr., A.M.

1876.

Pliny E. Chase, LL.D.

1877.

John J. Thomas, A.M.

1879.

Ellis Yarnall, A.M.

1880.

Thomas Chase, LL.D.  
 Thomas Hughes, LL.D.









CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1882-83.

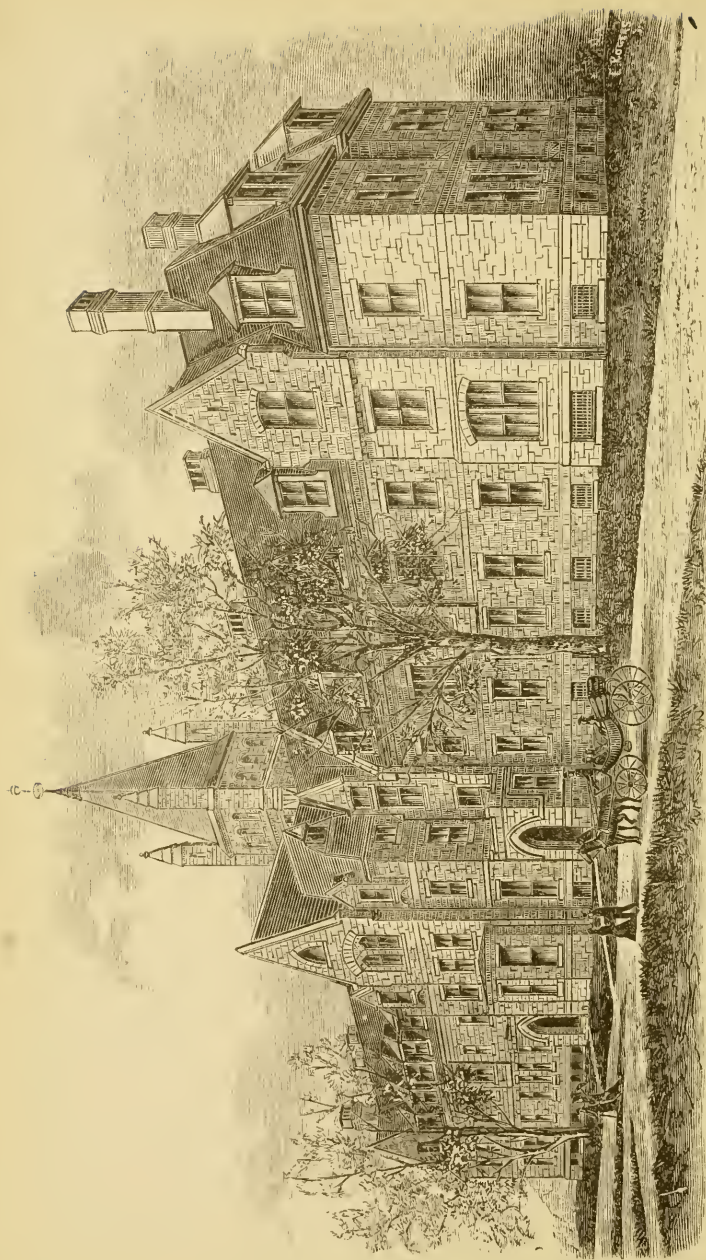


PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1883.









BARCLAY HALL.

CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
**1882-83.**



PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1883.

## CORPORATION.

*Secretary,*

EDWARD BETTLE, JR.,  
8 N. Front St., Philadelphia.

*Treasurer,*

DAVID SCULL, JR.,  
125 Market Street, Philadelphia.

*Managers,*

WISTAR MORRIS,	CHARLES HARTSHORNE,
T. WISTAR BROWN,	JOHN B. GARRETT,
JAMES WHITALL,	EDWARD BETTLE, JR.,
JAMES CAREY THOMAS,	CHARLES ROBERTS,
PHILIP C. GARRETT,	EDWARD L. SCULL,
JAMES E. RHOADS,	FRANCIS WHITE,
RICHARD CADBURY,	BENJAMIN H. SHOEMAKER,
DAVID SCULL, JR.,	HOWARD COMFORT,
RICHARD WOOD,	WILLIAM S. TAYLOR,
ROBERT B. HAINES,	WILLIAM PENN EVANS,
FRANCIS T. KING,	JOHN T. MORRIS,
WILLIAM R. THURSTON,	HENRY BETTLE,
GEORGE HOWLAND, JR.,	JUSTUS C. STRAWBRIDGE.

*Secretary of the Board,*

EDWARD BETTLE, JR.

*Executive Committee,*

JAMES WHITALL,	EDWARD BETTLE, JR.,
DAVID SCULL, JR.,	RICHARD CADBURY,
EDWARD L. SCULL,	PHILIP C. GARRETT,
CHARLES ROBERTS.	

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FACULTY.

---

THOMAS CHASE, LTT.D., LL.D., PRESIDENT,  
AND PROFESSOR OF PHILOLOGY AND LITERATURE.

PLINY EARLE CHASE, I.L.D.,  
PROFESSOR OF PHILOSOPHY AND LOGIC,  
AND IN CHARGE OF THE DISCIPLINE.

ALLEN CLAPP THOMAS, A.M., PREFECT,  
AND PROFESSOR OF RHETORIC, POLITICAL SCIENCE, AND HISTORY.

ISAAC SHARPLESS, S.B.,  
PROFESSOR OF MATHEMATICS AND ASTRONOMY.

LYMAN BEECHER HALL, PH.D.,  
JOHN FARNUM PROFESSOR OF CHEMISTRY AND PHYSICS.

SETH KELLEY GIFFORD, A.M.,  
ASSISTANT PROFESSOR OF GREEK AND LATIN.

JOSEPH RHOADS, JR., A.B.,  
INSTRUCTOR IN NATURAL HISTORY, AND CURATOR OF THE MUSEUM.

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ALFRED GREELEY LADD, A.M., M.D.,  
INSTRUCTOR IN PHYSICAL TRAINING AND DIRECTOR OF THE GYMNASIUM.

CHARLES M. BURNS, JR.,  
INSTRUCTOR IN DRAWING.

WALTER FERRIS PRICE, A.M.,  
ASSISTANT LIBRARIAN.

JOHN ELIHU COFFIN, S.B.,  
ASSISTANT IN THE ASTRONOMICAL OBSERVATORY.

## RESIDENT GRADUATES.

JOSEPH RHOADS, JR., A.B.,

WALTER FERRIS PRICE, A.M.,

JOHN ELIHU COFFIN, S.B.

---

SENIOR CLASS.

---

*CLASSICAL SECTION.*

BLANCHARD, JOHN, . . . . .	Bellefonte, Pa.
BRIGGS, FRANK ELWOOD, . . . .	Winthrop, Me.
EVANS, GEORGE HENRY, . . . . .	Indianapolis, Ind.
STUART, FRANCIS BACON, . . . .	Spiceland, Ind.
THOMAS, BOND VALENTINE, . . . .	Baltimore, Md.
WORTHINGTON, THOMAS KIMBER, . .	Baltimore, Md.

*SCIENTIFIC SECTION.*

BAILY, WILLIAM LOYD, . . . . .	Philadelphia, Pa.
COLLINS, STEPHEN WILLETS, . . . .	Purchase, N. Y.
EDWARDS, DAVID WILLIAM, . . . .	Spiceland, Ind.
SCULL, WILLIAM ELLIS, . . . . .	Philadelphia, Pa.
SHOEMAKER, SAMUEL BINES, . . . .	Germantown, Pa.
SPRUANCE, JOHN SPOTSWOOD, . . . .	Wilmington, Del.
WHITE, WILLIAM ALPHEUS, . . . . .	Red Cross, N. C.
WHITNEY, CHARLES HENRY, . . . . .	Bryn Mawr, Pa.
WHITNEY, LOUIS BUTLER, . . . . .	Bryn Mawr, Pa.

JUNIOR CLASS.

---

*CLASSICAL SECTION.*

ALLEN, JOHN HENRY, . . .	Union Springs, N. Y.
BATES, ORREN WILLIAM, . .	Oneco, Conn.
CHASE, THOMAS HERBERT, .	Haverford College, Pa.
HAINES, WILLIAM JONES, . .	Cheltenham, Pa.
HALL, ARTHUR DILWYN, . .	Lynn, Mass.
JACOB, CHARLES RICHARD, .	Mansfield, Mass.
SMITH, ALFRED PERCIVAL, .	Germantown, Pa.

*SCIENTIFIC SECTION.*

BARTLETT, JARVIS HENRY, . .	Atlantic City, N. J.
CRAIG, ANDREW CATHERWOOD,	Philadelphia, Pa.
HILL, LOUIS TABER, . . . .	Mt. Pleasant, O.
MOORE, WALTER LINTON, . .	Ercildoun, Pa.

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LIST, JOHN KILBOURNE, . . .	Wheeling, W. Va.
VAUX, GEORGE, JR., . . . .	Philadelphia, Pa.
WHITE, FRANCIS ALBERTSON, .	Baltimore, Md.



## SOPHOMORE CLASS.

*CLASSICAL SECTION.*

BETTLE, SAMUEL, . . . . .	Camden, N. J.
FERRIS, WILLIAM TABER, . . .	Poughkeepsie, N. Y.
HARDING, GEORGE FRANKLIN, . .	Boston, Mass.
HILLES, WILLIAM SAMUEL, . . .	Wilmington, Del.
HUSSEY, WILLIAM TIMOTHY, . . .	North Berwick, Me.
JONES, ARTHUR WINSLOW, . . .	South China, Me.
JONES, RUFUS MATTHEW, . . .	South China, Me.
MORRIS, MARRIOTT CANBY, . . .	Germantown, Pa.
MURRAY, AUGUSTUS TABER, . . .	New Bedford, Mass.
REEVE, AUGUSTUS HENRY, . . .	Camden, N. J.
REEVE, WILLIAM FOSTER, . . .	Camden, N. J.
WHITE, ELIAS HENLEY, . . . .	Raysville, Ind.

*SCIENTIFIC SECTION.*

BAILY, CHARLES WINTER, . . . .	Philadelphia, Pa.
BLAIR, JOHN JAY, . . . . .	High Point, N. C.
DOAN, ENOS L., . . . . .	Valley Mills, Ind.
RICHARDS, THEODORE WILLIAM, . .	Germantown, Pa.
SMITH, LLOYD LOGAN, . . . . .	Germantown, Pa.
WILSON, MATTHEW TERRELL, . . .	Spiceland, Ind.

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BRICK, JOSEPH COLES, . . . . .	Wilmington, Del.
BUFFUM, EDWARD, . . . . .	Newport, R. I.
JAY, ISAAC EGBERT, . . . . .	Richmond, Ind.
WHITALL, THOMAS WISTAR, . . .	Germantown, Pa.

---

FRESHMAN CLASS.

---

*CLASSICAL SECTION.*

BACON, JOHN, . . . . .	Greenwich, N. J.
CARMALT, CHARLES CHURCHILL, .	Scranton, Pa.
HAZARD, WILLIS HETFIELD, . .	West Chester, Pa.
KIMBER, JOHN SHOBER, . . . .	Germantown, Pa.
SCOTT, ALEXANDER HARVEY, . .	Philadelphia, Pa.
SMITH, HORACE EUGENE, . . . .	Philadelphia, Pa.
TUNIS, JOSEPH PRICE, . . . . .	Philadelphia, Pa.

*SCIENTIFIC SECTION.*

BETTS, THOMAS WADE, . . . . .	Wilmington, O.
JOHNSON, GUY ROCHE, . . . . .	Longdale, Va.
TROTTER, FRANCIS LAURIE, . . .	Philadelphia, Pa.
TROTTER, FREDERICK NEWBOLD, .	Philadelphia, Pa.
WHITE, WILFRID WALTON, . . .	Raysville, Ind.

---

BROOKE, HUGH JONES, . . . . .	Media, Pa.,
GRAFFLIN, FREDERICK LINCOLN, .	Baltimore, Md.
LIPPINCOTT, SAMUEL PARRY, . .	Cheltenham Hills, Pa.
McFARLAND, WILLIAM STUART, .	Mt. Laurel, N. J.
STARR, ISAAC TATNALL, . . . . .	Cheltenham Hills, Pa.

## SUMMARY.

Seniors, . . . . .	15
Juniors and Special Students, .	15
Sophomores and Special Students,	21
Freshmen and Special Students, .	17
	<hr/>
Total of Undergraduates, .	68
Resident Graduates, . . . .	3
	<hr/>
Total, . . . . .	71

## CALENDAR.

College Year, 1882-83, began with the be-		
ginning of the Autumn Term, 1882, .	9th Mo.	13.
Winter Recess began . . . . .	12th Mo.	22.
Winter Term began,* 1883, . . . . .	1st Mo.	2.
Mid-year Examinations, began . . . . .	1st Mo.	25.
Second Half-year began . . . . .	2d Mo.	1.
Oration before the Loganian Society, . . . . .	4th Mo.	12.
Junior Exercises, 6th Day, . . . . .	4th Mo.	13.
Spring Recess, begins . . . . .	4th Mo.	13.
Spring Term begins* . . . . .	4th Mo.	23.
Public Oration for the Prize, . . . . .	5th Mo.	25.
Public Meeting of the Loganian Society, . . . . .	6th Mo.	18.
Address to the Graduating Class, . . . . .	6th Mo.	20.
Commencement Day, 1883, . . . . .	6th Mo.	20.
Examinations for Admission, 2 P.M., . . . . .	6th Mo.	20.

## VACATION OF TWELVE WEEKS.

Examinations for Admission, 9 A.M.,† . . . . .	9th Mo.	11.
College Year, 1883-84, begins* . . . . .	9th Mo.	12.
Winter Recess begins . . . . .	12th Mo.	21.
Winter Term begins,* 1884, . . . . .	1st Mo.	2.
Second Half-year begins . . . . .	1st Mo.	31.
Spring Recess begins . . . . .	4th Mo.	11.
Commencement Day, 1884, . . . . .	6th Mo.	18.
College Year, 1884-85, begins,* . . . . .	9th Mo.	9.

\* The first recitations are due promptly at *half-past nine o'clock*, at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

† See also page 15.

## REQUISITES AND TERMS OF ADMISSION.

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CANDIDATES for admission to the Freshman Class in the CLASSICAL COURSE will be examined as to their proficiency in the following requisites :

CLASSICS.—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in *Latin and Greek Grammar*, to be tested, in part, by *writing* sentences in Latin and Greek ; acquaintance with Prosody, to be proven by *scanning verses* from Virgil ; and, in general, a sufficient knowledge of both languages to enable one to pursue, with facility and advantage, the studies of the Freshman year. Candidates will be examined in Cæsar, Cicero, Virgil, and Xenophon or the Greek Reader ; or equivalents. Teachers are advised to exercise their pupils from the very first in *writing* both Greek and Latin.

MATHEMATICS.—*Arithmetic*, including the *Metric System* ; *Algebra*, to Quadratic Equations ; *Geometry*, in the first four books of Sharpless's *Geometry*, or their equivalents.

ENGLISH.—*Spelling*, *Grammar*, *English Composition*, *Civil Geography*, *Physical Geography*, the elements of *Greek and Roman History* (as in Pennell's *Elements*, or their equivalents), and the *History of the United States*. The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics. Acquaintance with the elements of the *History of England* will be found advantageous.

DRAWING.—Practice in Free Hand Drawing, from childhood up, is earnestly recommended as an important part of the preparation for advanced studies.

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Classical Course, except in the Greek language, and will also be examined in the elements of *Physics* and of *Botany*, or in studies deemed by the Faculty of equivalent value.

Satisfactory examination-papers, written under proper supervision at first-class schools, and forwarded or reported to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and also on subsequent examination thoroughly fitted in all the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that “the College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society.”

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismission in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to President

THOMAS CHASE, LL.D., Haverford College P. O., Montgomery Co., Pa. Candidates will present themselves at Founders' Hall, for examination by the Faculty, *at 2 o'clock on Commencement day, or at 9 o'clock on the morning previous to the beginning of the half year, or of the College term, at which they desire to enter.*

The price of Board and Tuition (together with fuel, lights, and all necessary furniture and service), is \$425.00 per annum, payable to the Prefect, one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students who dine at the College, the annual charge is \$250.00.

There is a telegraph office and an Adams's Express office at the College Station, and there is a U. S. Money-order office at Bryn Mawr, Montgomery Co., Pa., one mile from the College.

For further information, and for circulars and catalogues, address Professor ALLEN C. THOMAS, Prefect, Haverford College, Montgomery Co., Pa.

## COURSES OF INSTRUCTION.

CLASSICAL COURSE.

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## FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
  2. *Mathematics*. Sharpless's Geometry; Wells's University Algebra. Four hours a week.
  3. *Greek*. Xenophon's Hellenica, or an equivalent; Herodotus; Homer; Review of Greek Grammar; Translations at sight.
  4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.
  5. *Latin*. Livy (Chase); The Odes of Horace, Books I and II (Chase); Review of Latin Grammar; Translations at sight.
  6. *Latin Prose Composition*. Bennett. Subjects 5 and 6, four hours a week.
  7. *Rhetoric and Composition*. Principles of Rhetoric (A. S. Hill); Composition. One hour a week.
  8. *History*. History of Greece; History of Rome; Chronology.
  9. *Zoology. Hygiene. Physiography. Botany*. Subjects 8 and 9, three hours a week.
  10. *Drawing*. Free Hand Drawing from Objects. One hour a week.
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## SOPHOMORE CLASS.

1. *Scripture*. The New Testament (English and Greek). One hour a week.



2. *Mathematics.* Gummere's Trigonometry and Surveying, with Field Practice; Wheeler's Plane and Spherical Trigonometry; Higher Algebra. Three hours a week.

3. *Greek.* The Iliad and Odyssey of Homer; Plato's Apology and Crito, or Phaedo; The Prometheus of Æschylus, or The Medea of Euripides; Translations at sight.

4. *Greek Prose Composition.* Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin.* Horace, Books III and IV of the Odes; Satires and Epistles; The Germania and Agricola of Tacitus; Translations at sight.

6. *Latin Prose Composition.* Abbott. Subjects 5 and 6, three hours a week the first half year, two hours the second.

7. *Ethics and Christian Evidences.* Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

8. *English Literature.* Lectures; Lives and works of English Authors. One hour a week the first half year.

9. *Rhetoric.* Whately's Rhetoric, Part III.

10. *Political Science.* Cooley's Principles of Constitutional law; International Law; Constitution of the United States. Subjects 9 and 10, two hours a week the second half year.

11. *Physics.* Natural Philosophy; Lectures. Three hours a week the first half year.

12. *Chemistry.* Eliot and Storer's Chemistry; Lectures. Three hours a week the second half year.

13. *Drawing.* Free Hand Drawing from Objects. One hour a week.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture.* Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

2. *Mathematics*. Peck's Analytical Geometry. Three hours a week the first half year.

3. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

4. *Greek*. Thucydides; The Antigone of Sophocles; Exercises in writing Greek. Two hours a week. (Students who desire it, may take Calculus in the second half year in place of Greek, without losing the right to take Greek in the senior year.)

5. *Latin*. Cicero's Tusculan Disputations and Somnium Scipionis (Chase); Pliny's Letters; The Captives of Plautus; Exercises in writing Latin. Two hours a week.

6. *German*. Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts. Two hours a week.

7. *Geology*. Dana's Text-Book. Two hours a week the first half year.

8. *Rhetoric*. Whately's Rhetoric; Themes.

9. *Political Science*. Political Economy; Forensics. Subjects 8 and 9, two hours a week the first half year, one hour a week the second.

10. *History*. History of the Middle Ages.

11. *Logic*. Whately and Hamilton.

12. *Psychology*. Haven's Mental Philosophy (begun). Subjects 11 and 12, three hours a week the second half year.

13. *Elocution*. Rehearsals for Public Exhibition.

14. *Drawing*. (For students who have not attained a sufficient proficiency, or as a voluntary study for others.) One hour a week.

#### ELECTIVE STUDIES.

(Two hours a week to be selected.)

1. *Descriptive Geometry, Shades and Shadows, and Perspective*. Two hours a week the first half year.

2. *Chemistry*. Qualitative Analysis; Laboratory Practice. Twice a week the first half year, counting as two hours of recitation.

3. *Mathematics*. Peck's Differential and Integral Calculus. Two hours a week the second half year.

4. *French*. Knapp's or Otto's Grammar; Voyage autour de ma Chambre; Fénelon's *Télémaque*; Histoire de Charles XII; Exercises. Three hours a week the second half year, counting as two hours. (Students sufficiently advanced may recite in French with the Senior Class.)

5. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.

## SENIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament continued. One hour a week.

2. *Latin and Classical Literature*. Chase's Selections from Juvenal; Cicero's Letters; Latin Poetry; The Ancient pronunciation of Latin; Latin Composition; History of the Literatures of Greece and Rome. Two hours a week.

3. *French*. Grammar, Translation, and Exercises. (Required in lieu of one of the elective studies, of those members of the Senior Class who have not previously studied French.) Three hours a week the second half year, counting as two hours.

4. *Anglo-Saxon*. One hour a week the second half year.

5. *Philology, etc.* Keary's, *Dawn of History*. One hour a week the first half year.

6. *Psychology*. Haven continued; Bowne's *Metaphysics*; Lectures. Two hours a week the first half year.

7. *Natural and Revealed Religion*. Butler's *Analogy*. Two hours a week the first half year.

8. *Christian Doctrines*. Barclay and Gurney. One hour a week the second half year.

9. *English*. Philological Study; History of the English Language; Themes. One hour a week the second half year.

10. *History*. Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Arnold's Lectures on Modern History; Seebohm's Protestant Revolution. Two hours a week.

11. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.

12. *Elocution and Composition*. A Public Oration at Commencement.

#### ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Analytical Mechanics*. Two hours a week through the year.

2. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory. Two hours a week through the year. (Courses 1 and 2 are open only to those who have studied Calculus in the Junior year.)

3. *Civil and Sanitary Engineering*. Mahan; Henck; Waring; Field Practice. Two hours a week.

4. *Physics*. Acoustics; Optics; Electricity; Magnetism. Two hours a week.

5. *Classical Philology, and Greek*. Demosthenes on the Crown, or an equivalent; Greek Pastoral and Lyric Poets; Greek Composition; Papillon's Greek and Latin Inflections; Peile's Greek and Latin Etymology, with Curtius, Vaniček, and Corssen for reference; Curtius's and Roby's Grammars for reference; Inscriptions. Two hours a week.

6. *Psychology*. Berkeley; Bowne (continued). Two hours a week the second half year.

7. *Ecclesiastical History*. Smith; Stanley; Trench.

8. *German*. Auerbach's Brigitta, or an equivalent in prose; Goethe's Iphigenie auf Tauris; Review of the Grammar; Oral and Written Exercises. Two hours a week.

9. *French.* La Tulipe Noire ; Racine's *Athalie* ; Molière or Corneille ; Grammar ; Oral and Written Exercises. Three hours a week, counting as two hours. (Advanced German or French may be dropped in the second half year by students who wish to take Calculus or Psychology in place of either of them.)

10. *Hebrew.* Grammar ; Exercises ; Translations from the Old Testament. Two hours a week.

11. *Peck's Differential and Integral Calculus.* Two hours a week the second half year.

## SCIENTIFIC COURSE.

### FRESHMAN CLASS.

1. *Scripture.* The Gospel according to John. One hour a week.

2. *Mathematics.* Sharpless's Geometry ; Wells's University Algebra. Four hours a week.

3. *Latin.* Livy (Chase) ; Horace (Chase) ; Review of Latin Grammar ; Translations at sight.

4. *Latin Prose Composition* (Bennett). Subjects 3 and 4, four hours a week.

5. *Rhetoric and Composition.* One hour a week.

6. *Physics.* Natural Philosophy ; Lectures. Three hours a week the first half year.

7. *Chemistry.* Eliot and Storer ; Lectures. Three hours a week the second half year.

8. *History.* History of Greece ; History of Rome ; Chronology.

9. *Zoology, Hygiene, Physiography, Botany.* Subjects 8 and 9, three hours a week.

10. *Drawing.* Free Hand Drawing from Objects. One hour a week.

## SOPHOMORE CLASS.

1. *Scripture*. The New Testament. One hour a week.

2. *Mathematics*. Gummere's Trigonometry and Surveying, with Field Practice; Wheeler's Plane and Spherical Trigonometry; Higher Algebra. Three hours a week.

3. *French*. Knapp's or Otto's Grammar; Voyage autour de ma Chambre; Fénelon's *Télémaque*; Histoire de Charles XII; Exercises. Three hours a week the second half year.

4. *German*. Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts. Two hours a week.

5. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

6. *English Literature*. Lectures; Lives and Works of English Authors. One hour a week the first half year.

7. *Rhetoric*. Whately's Rhetoric, Part III.

8. *Political Science*. Cooley's Principles of Constitutional Law; International Law; Constitution of the United States. Subjects 7 and 8, two hours a week the second half year.

9. *Chemistry*. Qualitative Analysis; Laboratory Practice. Twice a week, the first half year, counting as two hours of recitation.

10. *Chemical Philosophy; Chemistry of Carbon Compounds*. Two hours a week the second half year.

11. *Physics*. Deschanel; Heat. Two hours a week the first half year.

In alternate years, subjects 10 and 11 will be studied in the Junior year in place of course 12 of that year.

12. *Natural History*. Advanced Zoology and Biology. Two hours a week the first half year.

13. *Drawing*. Mechanical Drawing from Objects, Geo-

metrical Solids, etc.; Isometric and Perspective Drawing. Three hours a week, counting as one hour.

\* \* Latin or French may be taken in the place of Natural History.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible; or, the Greek Testament (for students having a sufficient knowledge of Greek). One hour a week.

2. *Mathematics.* Peck's Analytical Geometry; Peck's Differential and Integral Calculus. Three hours a week the first half year and two the second.

3. *Mathematics.* Descriptive Geometry; Isometric Projection, Shades and Shadows, and Perspective. Two hours a week the first half year.

4. *Astronomy.* Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

5. *German.* Auerbach's Brigitta, or an equivalent of prose; Goethe's Iphigenie auf Tauris; Review of the Grammar; Oral and Written Exercises. Two hours a week.

6. *Geology.* Dana's Text-Book. Two hours a week the first half year.

7. *Rhetoric.* Whately's Rhetoric; Themes.

8. *Political Science.* Political Economy; Forensics. Subjects 7 and 8, two hours a week the first half year, one hour the second.

9. *History.* History of the Middle Ages.

10. *Logic.* Whately and Hamilton.

11. *Psychology.* Haven's Mental Philosophy (begun). Subjects 10 and 11, three hours a week the second half year.

12. *Physics.* Acoustics; Optics; Electricity; Magnetism. Two hours a week.

In alternate years this subject will be studied in the Sophomore year in place of courses 10 and 11 of that year.

13. *Mineralogy*. Practical Exercises in Crystallography and Determination of Minerals; Dana's Text-Book. Two hours a week the second half year. Subject 13 will be elective after this year.

14. *Elocution*. Rehearsals for Public Exhibition.

#### ELECTIVE STUDIES.

(One subject to be selected.)

1. *Chemistry*. Qualitative and Quantitative Analysis. Twice a week, counting as two hours of recitation.

2. *French*. La Tulipe Noire; Racine's *Athalie*; Molière or Corneille; Grammar; Oral and Written Exercises. Three hours a week, counting as two hours.

3. *Elementary Greek*. Grammar and Xenophon; Greek Testament; Scientific Nomenclature. Two hours a week.

4. *Latin*. Cicero's *Tusculan Disputations*; Pliny; Plautus. Two hours a week.

#### SENIOR CLASS.

##### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible, or Greek Testament. One hour a week.

2. *Analytical Mechanics*. Two hours a week.

3. *French*. (Same as the elective French in the Junior year.) Three hours a week, counting as two hours. Required in lieu of an elective study of those who have not already studied French a year and a half.

4. *Anglo-Saxon*. One hour a week the second half year.

5. *Philology, etc.* Kearv's *Dawn of History*. One hour a week the first half year.

6. *Psychology*. Haven (continued); Bowne's *Metaphysics*; Lectures. Two hours a week the first half year.

7. *Natural and Revealed Religion*. Butler's *Analogy*. Two hours a week the first half year.



8. *Christian Doctrines.* Barclay and Gurney. One hour a week the second half year.

9. *English.* Philological Study; History of the English Language; Themes. One hour a week the second half year.

10. *History.* Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Arnold's Lectures on Modern History; Seeböhm's Protestant Revolution. Two hours a week.

11. *Anatomy, Physiology, and Hygiene.* Two hours a week the second half year.

12. *Composition and Elocution.* A Public Oration at commencement.

#### ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Astronomy.* Loomis's Practical Astronomy, with special practice in the observatory. Two hours a week through the year.

2. *Experimental Physics.* Physical Measurements. Twice a week. (Open only to such students as have shown a marked proficiency.)

3. *Chemistry.* Analysis, and other experimental practice. Twice a week.

4. *Civil and Sanitary Engineering.* Mahan, Henck, Waring; Field Practice. Two hours a week.

5. *Psychology.* Berkeley; Bowne (continued); Lectures. Two hours a week the second half year. (May be substituted for French.)

6. *Ecclesiastical History.* Smith; Stanley; Trench.

7. *Greek.* Homer (or other authors, in any year of the classical course); History of Greek Literature. Two hours a week.

8. *Latin.* Two hours a week the first half year.

9. *Hebrew.* Grammar; Exercises; Translations from the Old Testament. Two hours a week.

10. *Drawing.* (As a voluntary extra study.)

## LECTURES.

The Lectures and Courses of Lectures for the year 1882-83 are as follows :—

<i>William Penn,</i>	. . . . .	PRESIDENT CHASE.
<i>Spectrum Analysis,</i>	. . . . .	PROF. SHARPLESS.
<i>Weather Predictions,</i>	}	. . . . . PROF. P. E. CHASE.
<i>Meteorology,</i>		
<i>Talks with Famous Men.</i>	. . . . .	CHARLES WOOD, A.M.
<i>The Miracle Plays.</i>	. . . . .	PRESIDENT CHASE.
<i>American History,</i>	. . . . .	JAMES WOOD.
<i>Local Life and Home Institutions,</i>	}	PROF. H. B. ADAMS, PH.D.
<i>Picturesque England,</i>	. . . . .	PROF. THOMAS.
<i>Study, and the Men who</i>	}	ELLIS YARNALL.
<i>have won by it,</i>		

## EVENING READINGS.

Evening Readings, consisting chiefly of selections from ancient and modern classics, are given frequently during the year. The attendance is voluntary.

The course for the year 1882-83 is :—

<i>Matthew Arnold and Clough,</i>	}	. . . . . PRESIDENT CHASE.
<i>Terence,</i>		
<i>Robert Browning,</i>	}	. . . . . PROFESSOR THOMAS.
<i>Eighteenth Century Poets,</i>		

## VOLUNTARY GERMAN CLASSES.

Reading and Conversation Classes in German are held on certain evenings in the week.

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## EXAMINATIONS.

In determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are written examinations of each class in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts or that of Bachelor of Science. These examinations are calculated to test as accurately as possible the scholarly habits of the students, and the attainments which they have made.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two thirds, on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. But no student is entitled to such advancement, whatever his numbers or rank, unless, in the judgment of his instructors and caretakers, he has been faithful in his daily studies and satisfactory in his character and conduct.

The *viva voce* examinations are made in the daily recitations. Marks are given for each recitation attended; but special examinations are frequently used as an element in determining them. The average of these marks is combined with the average obtained in the semi-annual examinations, to find a student's rank.

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## ADVANCED DEGREES.

BACHELORS OF ARTS of three years' standing may take the degree of MASTER OF ARTS, and BACHELORS OF SCIENCE of three years' standing may take the degree of MASTER OF SCIENCE, on submitting to the Executive Com-

mittee satisfactory evidence of continued good moral character, and passing an examination on some literary or scientific course of study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate courses of study to be presented by candidates for the second degree :

I. The whole of the New Testament in Greek, with Winer's or Buttmann's *N. T. Grammar*, Grimm's *Lexicon*, and Scrivener's *Introduction*.

II. The whole of Thucydides, together with Grote and Curtius on the Peloponnesian War.

III. Ten Tragedies of Æschylus, Sophocles, or Euripides.

IV. Cicero's *Tusculan Disputations* (five books), *De Natura Deorum*, and *De Officiis*, together with the *History of Ancient Philosophy*.

V. The whole of Tacitus, together with Merivale.

VI. Gervinus's *History of Modern Europe*, or Schiller's *History of the Thirty Years' War and Wallenstein* (all the parts), in the original German ; together with a thorough examination in the nicer points of German Grammar and composition, and in translation at sight, both from German (not before read) into English, and from English into German.

VII. The *Nicomachean Ethics* of Aristotle (in the original) ; Jouffroy's *Introduction to Ethics*, and Whewell's *Ethics*.

VIII. Greek Literature, with translations at sight from any of the leading authors, and a short original essay in Greek on some topic connected with this subject.

IX. Latin Literature, with translations at sight from any of the leading authors, and an original essay in Latin.

X. *Thermodynamics*.

XI. *Theoretical Astronomy* (Watson and Gauss).

XII. *Practical Astronomy* (Chauvenet).

XIII. Rankine's *Applied Mechanics*, or Rankine's *Civil Engineering*.

XIV. Freeman's History of the Norman Conquest, Green's larger History of England, and Stubb's, Hallam's, and May's Constitutional Histories.

XV. American History (Bancroft, Hildreth, Parkman, Frothingham's Rise of the Republic, Curtis's History of the Constitution, Von Holst's Constitutional History of the United States, The Federalist).

XVI. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Benfey, Fick, Leo Meyer, Pezzi). Some knowledge of Sanskrit will be expected of candidates in this course.

XVII. Modern Languages. Courses similar to VIII and IX may be offered in any modern language other than English. A high degree of proficiency will be required.

XVIII. Ecclesiastical History.

Candidates who are examined may also, if they desire, hand in Dissertations on topics in their field of study which they have specially investigated.

Resident Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree before the expiration of three years, if the Faculty deem it proper.

Masters of Arts and Science may be examined for the degrees of DOCTOR OF PHILOSOPHY and DOCTOR OF SCIENCE; but such degrees will be conferred only after satisfactory proof of the faithful and successful prosecution of courses of study fully equal in extent and quality to those required for similar honors in the best Universities.

Notice of application for examination must be given to the Prefect two months before Commencement. The examinations will be held the last week in the Fifth month, and no later. The fee for the Diploma of the Second Degree is Twenty Dollars, of subsequent degrees Thirty Dollars, to be paid to the Prefect in all cases before the 10th of the Sixth month.

## Alumni Prize

### For Composition and Oratory.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE of a Gold Medal, or of Books of equal value, for excellence in Composition and Oratory.

The prize was awarded last year to WILMOT RUFUS JONES, of the class of 1882, for his oration on "Reform in the Science of Government."

The following are the Regulations governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall, on the evening of the last Sixth day in the Fifth month, hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

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## LIBRARY.

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LIBRARIAN, Professor Allen C. Thomas ; Walter F. Price, *Assistant*.  
COMMITTEE in charge of the Library, Richard Wood, *Chairman* ; Philip C. Garrett, Charles Roberts, Edward Bettie, Jr., Edward L. Scull, Howard Comfort.

The number of bound volumes in the Library Hall, accessible to the members of the College, is 13,820. Of these the LIBRARY OF HAVERFORD COLLEGE contains 9470 vol-

umes; that of the LOGANIAN SOCIETY 2463; those of other societies 1887. Numerous American and European periodicals, scientific and literary, are taken in by the Library.

A collection of the magnificent plates of Piranesi's Views of Rome was presented in 1881 by William S. Vaux.

The income of a fund of ten thousand dollars is devoted annually to the increase of the Library.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves may be freely consulted.

A CARD CATALOGUE of the College and the Society Libraries show at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

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## MUSEUM, LABORATORY, AND APPARATUS.

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THE MINERALOGICAL COLLECTION contains over 3000 specimens, including the collection of the late Dr. Troost. The GEOLOGICAL CABINET comprises about 2500 specimens, and contains complete suits illustrating the Geology of New York and South Carolina, prepared for the College by the late Lardner Vanuxem. Collections of fossils and of shells were purchased in 1879. Donations have been received in 1880 from the State Geological Survey, and in 1881 and 1882 from William S. Vaux.

The cabinets of Natural History which belonged to the Loganian Society have been presented to the College. A large and very valuable collection of Birds has been given by David Scull, Jr., to which the Hannah W. Scull collection of birds' eggs is a valuable adjunct.

A set of clastic models, made by Auzoux, of Paris, exhibiting by dissection the actual appearance and anatomy of the minute, as well as the larger organs of the human body, and of interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY, also a collection of casts of FOSSIL SPECIES in Natural History, made by Professor Ward, of Rochester, have been presented to the Museum by Richard Wood.

Extensive APPARATUS is furnished for the illustration of Natural Philosophy and Chemistry.

The CHEMICAL LABORATORY is commodious and thoroughly furnished with the most approved appliances.

The GYMNASIUM was refitted early in 1881 with the apparatus of Dr. D. A. Sargent, Director of the Hemenway Gymnasium of Harvard University. A competent teacher, a graduate of Bowdoin College in Arts and Medicine and a pupil of Dr. Sargent, has direction of it, and gives systematic instruction, based upon careful personal examination, to each student desiring such aid.

## ASTRONOMICAL OBSERVATORY.

THE HAVERFORD OBSERVATORY affords the students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains an Equatorial Telescope, with an object glass of  $8\frac{1}{4}$  inches aperture, and a focal length of 11 feet, furnished with a filar micrometer, a ring micrometer, and 12 eye-pieces; a Newtonian Reflector with a silver on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Meridian Transit Circle, having a telescope of 4 inches aperture and 5 feet focal



length, with a circle at each end of the axis 26 inches in diameter, one reading by 4 verniers to 2", the other used simply as a finder; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; 2 Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 36.5''$  N.; its longitude, 6 m. 59.4 sec. East from Washington.

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## SOCIETIES.

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THE LOGANIAN SOCIETY was established by the Officers and Students in 1834. The exercises in its meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN." It has in its possession a carefully-selected Library of 2463 volumes, and a cabinet of medals and coins.

The ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 1887 volumes.

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## SITUATION OF THE COLLEGE.

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THE College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST-OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County*, Pa. The buildings are surrounded by grounds of upwards of sixty acres, tastefully laid out, and adorned with a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base-ball, foot-ball, archery, and lawn-tennis.

The FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; and BARCLAY HALL in 1876-77. Barclay Hall, a beautiful edifice of granite, 220 by 40 feet, contains the private studies and dormitories. It is furnished with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining-room, recitation-rooms, and Museum are in the Founders' Hall, which was remodelled internally in 1878 and 1882.

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## INSTRUCTION AND DISCIPLINE.

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THE courses of instruction at Haverford, aiming at thorough and generous training, embrace the standard studies proved by long experience to be the most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent times. Both courses are designed to give a broad, as well as thorough, culture, so that the Baccalaureate Degrees, whether in Arts or Science, may attest a comprehensive and truly liberal Education.

As the students form one household, Religious Instruction is carefully provided. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the classical course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, Barclay's Apology, and Gurney's Essays,

form part of the regular course of study. Loyal to all truth, Haverford College inculcates faithfully the simple and immutable truths of pure religion.

In the discipline of the College, the officers endeavor to promote habits of diligence, order, and regularity. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and, above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.

DEGREES GRANTED IN 1882.

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At the Commencement in 1882, Degrees were granted,  
in course, to the following graduates :

## BACHELORS OF ARTS.

GEORGE A. BARTON,  
ISAAC M. COX,  
RICHARD B. HAZARD,  
WILMOT R. JONES,  
WILMER P. LEEDS,  
J. HENLEY MORGAN,  
EDWARD RANDOLPH.

## BACHELORS OF SCIENCE.

JOHN E. COFFIN,  
DANIEL CORBIT,  
GEORGE L. CROSMAN,  
FREDERIC D. JONES,  
T. CHALKLEY PALMER,  
LINDLEY M. WINSTON.

---

The following degrees were granted upon examination :

MASTER OF ARTS.

ALLEN CLAPP THOMAS (Class of 1865).

WALTER FERRIS PRICE (Class of 1881).

The degree of MASTER OF ARTS was bestowed *honoris causa* upon

HENRY TROTH COATES.

## PROGRAMME OF RECITATIONS

FOR THE

FIRST HALF-YEAR 1882-3.

## SECOND-DAY.

	9.30-10.30		11-12	2-3	3-4
SENIORS.....	Scripture.	.....	Butler's Anal.	<i>Mechanics.</i>	German.
JUNIORS.....	Scripture.	.....	Anal. Geom.	.....	Greek.
SOPHOMORES.	Scripture.	.....	Ethics.	.....	<i>German.</i>
FRESHMEN....	Scripture.	.....	Latin.	<i>Zoology.</i>	Trigonom.
					<i>Zoology.</i>

## THIRD-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Latin.	Engineering.	Psychology.	<i>French.</i>	Greek.
JUNIORS.....	<i>Des. Geom.</i>	German.	Latin.	.....	Hebrew.
SOPHOMORES.	Nat. Philos.	<i>German.</i>	<i>Physics.</i>	Anal.Chem.	Anal.Chem.
FRESHMEN....	Greek.	.....	<i>Physics.</i>	<i>Anal.Chem.</i>	Latin.
	<i>Nat. Philos.</i>		Geometry.	<i>Zoology.</i>	<i>Anal. Chem.</i>
					<i>Zoology.</i>

## FOURTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	History.	.....	Butler's Anal.	Engineer'g.	Greek.
JUNIORS.....	German.	Anal. Geom.	Rhetoric.	Anal.Chem.	<i>Astronomy.</i>
SOPHOMORES.	<i>German.</i>	Latin.	Trigouom.	<i>Anal.Chem.</i>	Anal. Chem.
FRESHMEN....	Geometry.	.....	Latin.	.....	History.

## FIFTH-DAY.

	8.30-9.30	9.30-10.30	11.00	2-3	3-4
SENIORS.....	.....	History.	Meeting.	<i>French.</i>	Latin.
JUNIORS.....	.....	Latin.	Meeting.	.....	Rhetoric.
SOPHOMORES.	Greek.	<i>Physics.</i>	.....	.....	.....
	<i>Mec.Draw'g.</i>	Drawing.	Meeting.	<i>Zoology.</i>	<i>Zoology.</i>
FRESHMEN....	Geometry.	<i>Physics.</i>	Meeting.	.....	Nat. Philos.
		Drawing.			Greek.
					<i>Nat. Philos.</i>

## SIXTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Philosophy.	Eccl. Hist.	Psychology.	.....	Eccl. Hist.
JUNIORS.....	Anal. Geom.	<i>French.</i>	Geology.	<i>Des. Geom.</i>	<i>Mechanics.</i>
SOPHOMORES.	Eng. Lit.	.....	Latin.	.....	Greek.
FRESHMEN....	Latin.	<i>Zoology.</i>	<i>Zoology.</i>	<i>Mech. Draw'g.</i>	<i>Des. Geometry.</i>
		.....	Geometry.	.....	Nat. Philos.
					<i>Mech. Draw'g.</i>
					Greek.
					<i>Nat. Philos.</i>

## SEVENTH-DAY.

	9-10	10-11
SENIORS.....	<i>Astronomy.</i>	German.
JUNIORS.....	Rhetoric.	<i>German.</i>
SOPHOMORES.	Ethics.	Hebrew.
FRESHMEN....	Latin.	Trigonometry.
		Rhetoric, or History.

## PROGRAMME OF RECITATIONS

FOR THE

SECOND HALF-YEAR 1882-3.

## SECOND-DAY.

	9.30-10.30	11-12	2-3	3-4
SENIORS.....	Scripture.	English.	Eccl. Hist.	Anglo-Saxon.
JUNIORS.....	Scripture.	Logic.	.....	Polit. Econ.
SOPHOMORES.	Scripture.	Trigonometry.	.....	Paley's Evid's.
FRESHMEN....	Scripture.	Latin.	.....	Geometry.

## THIRD-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Latin.	Astronomy.	German.	.....	Anatomy
JUNIORS.....	<i>French.</i>	<i>French.</i>	<i>German.</i>	<i>German.</i>	Logic.
SOPHOMORES.	.....	Latin.	Trigonometry.	<i>German.</i>	Chemistry.
FRESHMEN....	Latin.	<i>French.</i>	Physiography or Botany.	.....	Greek. <i>Chemistry.</i>

## FOURTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Engineer'g.	History.	Greek.	.....	English.
JUNIORS.....	Latin.	Astronomy.	<i>Mechanics</i> <i>Organic Chem.</i>	<i>Calculus.</i>	German.
SOPHOMORES.	<i>Mineralogy.</i>	.....	Greek.	Latin.	<i>German.</i>
FRESHMEN ....	Politics.	.....	<i>Organic Chem.</i> History.	.....	Geometry.

## FIFTH-DAY.

	8.30-9.30	9.30-10.30	11 00	2-3	3-4
SENIORS.....	<i>French.</i>	History.	Meeting.	Psychology.	Astronomy.
JUNIORS.....	Greek.	<i>French.</i>	Meeting.	<i>Mineralogy.</i>	<i>French.</i>
SOPHOMORES.	Greek.	<i>French.</i>	Meeting.	.....	Chemistry.
FRESHMEN....	<i>Mech. Draw'g.</i>	Drawing.	Meeting.	.....	<i>French.</i> Greek. <i>Chemistry.</i>

## SIXTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Latin.	German.	Psychology.	.....	Eccl. Hist.
JUNIORS.....	<i>French.</i>	<i>Engineering.</i>	.....	.....	<i>Mechanics.</i>
SOPHOMORES.	Hebrew.	Latin.	Astronomy.	<i>Mech. Draw'g.</i>	Greek.
FRESHMEN....	Politics.	<i>German.</i>	<i>Organic Chem.</i>	<i>Mech. Draw'g.</i>	<i>Mech. Draw'g.</i>
		.....	Greek.	.....	<i>Mech. Draw'g.</i>
			<i>Organic Chem.</i>	.....	Greek.
			Physiography or Botany.	.....	<i>Chemistry.</i>

## SEVENTH-DAY.

	9-10	10-11
SENIORS.....	Anatomy.	Greek.
JUNIORS.....	Logic.	<i>Calculus.</i>
SOPHOMORES.	Trigonom.	Paley's Evidences.
FRESHMEN....	Latin.	History.

## LIST OF GRADUATES AND HONORARY DEGREES.

## GRADUATES.

1836.

Thomas F. Cock, M.D.  
Joseph Walton.

1837.

\*William C. Longstreth, \*1881.  
David C. Murray.  
Lindley Murray.  
\*Benjamin V. Marsh, \*1882.  
\*Joseph L. Pennock, \*1870.  
Robert B. Parsons.  
\*Charles L. Sharpless, \*1882.  
Lloyd P. Smith, A.M.  
\*B. Wyatt Wistar, \*1869.

1838.

\*James V. Emlen, M.D., \*1880.  
John Elliot.

1839.

Frederick Collins.  
Thomas P. Cope.  
Henry Hartshorne, M.D., A.M.  
Nereus Mendenhall, M.D.  
Richard Randolph, Jr., M.D.  
Charles Taber.

1840.

Joseph Howell.  
Anthony M. Kimber.  
\*Henry H. G. Sharpless, \*1870.  
\*John R. Winslow, M.D., \*1866.

1841.

\*Richard H. Lawrence.  
\*James P. Perot, \*1872.  
\*Elias A. White, \*1866.

1842.

Robert Browne.  
Richard Cadbury.  
\*William S. Hilles, \*1876.  
Thomas Kimber, Jr.  
James J. Levick, M.D.  
Edmund Rodman.  
\*Thomas R. Rodman.  
Benjamin R. Smith.  
Augustus Taber.  
Caleb Winslow, M.D.

1843.

Robert B. Howland.  
Francis White.  
William D. Stroud, M.D.

1844.

Evan T. Ellis.  
Robert B. Haines.  
Isaac Hartshorne.

1845.

Edmund A. Crenshaw.  
\*Robert Pearsall.

1849.

Albert K. Smiley, A.M.  
Alfred H. Smiley, A.M.

1851.

Joseph L. Bailey.  
Philip C. Garrett.  
Thomas J. Levick.  
Franklin E. Paige, A.M.  
Zaccheus Test, M.D., A.M.  
James C. Thomas, M.D., A.M.  
Richard Wood.



1852.

Dougan Clark, M.D.  
 Lewis N. Hopkins.  
 William L. Kinsman.  
 William E. Newhall.  
 James Whitall.

1853.

William B. Morgan, A.M.  
 William H. Pancoast, M.D., A.M.

1854.

Frederick Arthur, Jr.  
 John W. Cadbury.  
 John B. Garrett.  
 David Scull, Jr.

1855.

\*Samuel Bettle, \*1859.  
 John R. Hubbard, A.M.

1856.

Bartholomew W. Beesley.  
 Joel Cadbury, Jr.  
 Jonathan J. Comfort, M.D.  
 \*James M. Walton, \*1874.  
 Edward R. Wood, A.M.

1857.

Jesse S. Cheyney, A.M.  
 \*Cyrus Mendenhall, \*1858.  
 Stephen Wood.

1858.

Thomas H. Burgess.  
 Thomas Clark.  
 Daniel W. Hunt.  
 \*Samuel T. Satterthwaite, \*1865.  
 William G. Tyler.  
 Thomas Wistar, A.M., M.D.  
 Ellis H. Yarnall, LL.B.

1859.

\*Richard W. Chase, \*1862.  
 James R. Magee.  
 \*Richard C. Paxson, \*1864.  
 \*Edward Rhoads, M.D., \*1871.  
 Edward C. Sampson.  
 \*George Sampson, \*1872.  
 Abram Sharples, M.D.  
 Benjamin H. Smith.

1860.

\*Lindley M. Clark, \*1861.  
 \*William B. Corbit, M.D., \*1882.  
 \*William M. Corlies, \*1881.  
 Cyrus Lindley.  
 Theodore H. Morris.  
 Frederick W. Morris.  
 Richard Pancoast.  
 John W. Pinkham, M.D.  
 Francis Richardson.  
 Clement L. Smith, A.M.  
 James Tyson, M.D., A.M.  
 Silas A. Underhill, LL.B.

1861.

Edward Bettle.  
 Henry Bettle.  
 Charles Bettle.  
 William B. Broomall.  
 Charles H. Jones.  
 Thos. W. Lamb, A.M., M.D., \*1878.  
 William N. Potts.  
 Jehu H. Stuart, A.M., M.D.  
 John C. Thomas.

1862.

Henry T. Coates, A.M.  
 \*Samuel A. Hadley, \*1864.  
 George B. Mellor.  
 Horace Williams, M.D.  
 Isaac F. Wood.

1863.

Thomas J. Battey.  
 George M. Coates, Jr., A.M.  
 William M. Coates.  
 \*Richard T. Jones, \*1869.  
 William H. Morris.  
 Joseph G. Pinkham, M.D., A.M.

1864.

\*Franklin Angell, A.M., \*1882.  
 William Ashbridge, M.D.  
 Edward H. Coates.  
 Howard M. Cooper, A.M.  
 Albin Garrett.  
 Morris Longstreth, M.D., A.M.  
 Albert Pancoast.  
 Charles Roberts.  
 E. Pope Sampson.

Edward L. Scull.  
\*Randolph Wood, \*1876.

.1865.

John R. Bringhurst.  
Edward T. Brown.  
James A. Chase.  
Joseph M. Downing.  
Arthur Haviland.  
\*David H. Nichols, \*1865.  
Henry W. Sharpless.  
\*George Smith, Jr., \*1872.  
Robert B. Taber, A.M.  
Allen C. Thomas, A.M.  
Benjamin A. Vail.  
Caleb Cresson Wistar.

1866.

A. Marshall Elliott, A.M.  
Benjamin E. Valentine, LL.B.

1867.

\*John Ashbridge, \*1881.  
George Ashbridge, A.M.  
William P. Clark, A.M., LL.B.  
Samuel C. Collins, A.M.  
Nathaniel B. Crenshaw.  
Charles H. Darlington, A.M.  
\*Wm. T. Dorsey, M.D., \*1870.  
B. Franklin Eshleman.  
Richard M. Jones, A.M.  
Charles W. Sharpless.  
Walter Wood.

1868.

Edward H. Cook.  
Alexis T. Cope.  
Benjamin C. Satterthwaite.  
Louis Starr, M.D.  
S. Finley Tomlinson.  
Joseph H. Wills, A.M.

1869.

Johns H. Congdon.  
Henry Cope, A.M.  
Ludovic Estes, A.M.  
\*Henry Evaul, A.M., \*1877.  
\*William B. Kaighn, \*1876.  
Pendleton King, A.M.  
William H. Randolph.  
Edward B. Taylor, M.C.E.

William S. Taylor.  
James G. Whitlock.  
Walter Wood.  
Henry Wood, Ph.D.

1870.

J. Stuart Brown.  
John E. Carey.  
Alford G. Coale.  
Howard Comfort.  
T. Allen Hilles.  
William H. Hubbard, M.D.  
Thomas K. Longstreth, A.M.  
Oliver G. Owen, A.M.  
Charles E. Pratt, A.M.  
David F. Rose.  
John D. Steele.  
Charles Wood, A.M.  
Stuart Wood, Ph.D.

1871.

Henry G. Brown.  
William P. Evans.  
John S. Garrigues.  
Reuben Haines, A.M.  
William H. Haines.  
Joseph Hartshorne.  
Jesse F. Hoskins.  
Walter T. Moore.  
Ellis B. Reeves.  
Alfred R. Roberts, C.E.  
Charles S. Taylor.  
Edward D. Thurston.  
Randolph Winslow, M.D., A.M.

1872.

Richard Ashbridge, M.D.  
Richard T. Cadbury, A.M.  
James Carey, Jr., LL.B.  
Thomas S. Downing, Jr.  
Walter Erben.  
Thomas Rowland Estes.  
John E. Forsythe.  
William H. Gibbons, A.M.  
Francis B. Gummere, A.M., Ph.D.  
Casper Wistar Haines, C.E.  
Abram Francis Huston.  
\*Marmaduke Cope Kimber, A.M.,  
\*1878.  
William M. Longstreth.  
Richard H. Thomas, M.D.

1873.

James C. Comfort.  
 Thomas P. Cope, Jr.  
 George W. Emlen.  
 Joseph M. Fox.  
 Henry C. Haines.  
 Benjamin H. Lowry, A.M.  
 Alden Sampson, A.M.  
 Julius L. Tomlinson.

1874.

Edward P. Allinson, A.M.  
 John G. Bullock.  
 James Emlen.  
 Charles R. Hartshorne, LL.B.  
 Samuel E. Hilles.  
 John B. Jones.  
 Mahlon Kirkbride.  
 Theophilus P. Price.  
 James B. Thompson.  
 Joseph Trotter.

1875.

Edward K. Bispham.  
 Alonzo Brown, A.M.  
 J. Franklin Davis, A.M.  
 Charles E. Haines.  
 William Hunt, Jr.  
 Charles L. Huston.  
 Harold P. Newlin.  
 Walter W. Pharo.  
 Charles E. Tebbetts.  
 Miles White, Jr.

1876.

Francis G. Allinson, A.M., Ph.D.  
 David S. Bispham.  
 Reuben Colton.  
 Henry W. Dudley.  
 Seth K. Gifford, A.M.  
 L. Lyndon Hobbs.  
 Richard H. Holme.  
 Thomas Wm. Kimber.  
 Charles A. Longstreth.  
 J. Whitall Nicholson.  
 Percival Roberts, Jr.  
 Frank H. Taylor.  
 Howard G. Taylor.  
 \*Lewis A. Taylor. \*1881.

1877.

A.B.  
 Isaac W. Anderson.  
 Frederic L. Baily.  
 Isaac Forsythe.  
 James D. Krider.  
 George G. Mercer, D.C.L.  
 Wilson Townsend.

S.B.

William F. Smith.

1878.

A.B.  
 Henry Baily, A.M.  
 Albert L. Baily.  
 Francis K. Carey, LL.B., A.M.  
 Edward T. Comfort.  
 Charles S. Crosman.  
 Samuel H. Hill.  
 Lindley M. H. Reynolds.  
 Daniel Smiley, Jr.  
 Henry L. Taylor, M.D.  
 John M. W. Thomas.  
 George W. White.

S.B.

Jonathan Eldridge.  
 Edward Forsythe.  
 Cyrus P. Frazier, A.B.  
 Robert B. Haines, Jr.  
 Henry N. Stokes.

1879.

A.B.

Samuel Bispham, Jr.  
 Edward Gibbons.  
 John H. Gifford.  
 Francis Henderson, LL.B.  
 William C. Lowry.  
 John B. Newkirk.  
 John E. Sheppard, Jr., M.D.

1880.

A.B.

Charles F. Brede.  
 Charles E. Cox.  
 Josiah P. Edwards.

James L. Lynch.  
 Samuel Mason, Jr.  
 William F. Perry.  
 Joseph Rhoads, Jr.

S.B.

William Bishop.  
 Alexander P. Corbit.  
 Charles E. Gause, Jr.  
 Edward M. Jones.

1881.

A.B.

William A. Blair.  
 A. Morris Carey.  
 Levi T. Edwards.  
 Edward Y. Hartsborne.  
 Isaac T. Johnson.  
 Edwin O. Kennard.  
 Jesse H. Moore.  
 William E. Page.  
 Walter F. Price, A.M.  
 Thomas N. Winslow.  
 John C. Winston.

S.B.

Walter Brinton.  
 William H. Collins.  
 Joseph H. Cook.  
 Davis H. Forsythe.  
 Albanus L. Smith.

1882.

A.B.

George A. Barton.  
 Isaac M. Cox.  
 Richard B. Hazard.  
 Wilmot R. Jones.  
 Wilmer P. Leeds.  
 J. Henley Morgan.  
 Edward Randolph.

S.B.

John E. Coffin.  
 Daniel Corbit.  
 George L. Crosman.  
 Frederic D. Jones.  
 T. Chalkley Palmer.  
 Lindley M. Winston.

Whole number of graduates, 327.

## HONORARY DEGREES.

1858.

Hugh D. Vail, A.M.

1859.

\*Joseph W. Aldrich, A.M., \*1865.

1860.

John G. Whittier, A.M.

1864.

Edward D. Cope, A.M.

1867.

Joseph Moore, A.M.

1872.

William Jacobs, A.M.

1875.

Samuel Alsop, Jr., A.M.

1876.

Pliny E. Chase, LL.D.

1877.

John J. Thomas, A.M.

1879.

Ellis Varnall, A.M.

1880.

Thomas Chase, LL.D.

Thomas Hughes, LL.D.





CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1883-84.

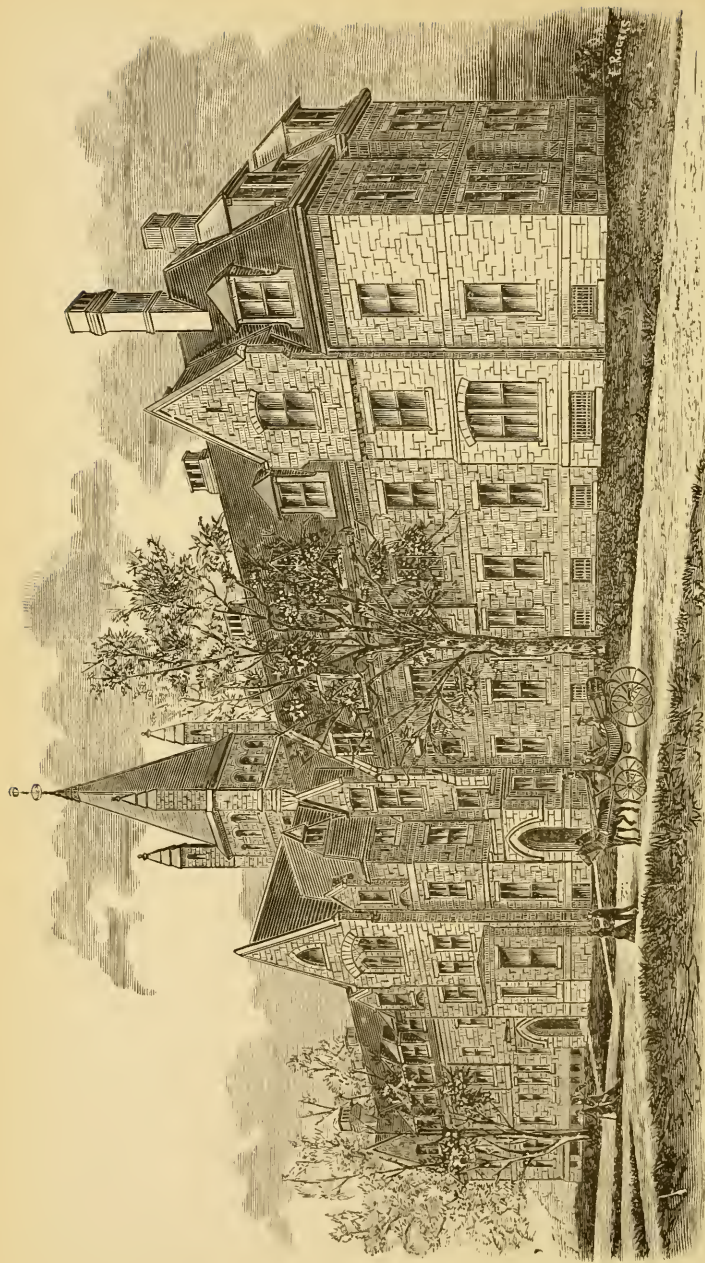


PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1884.









BARCLAY HALL.

CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1883—84.



PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1884.

## CORPORATION.

---

*Secretary,*

CHARLES ROBERTS,  
410 Race St., Philadelphia.

*Treasurer,*

EDWARD BETTLE, JR.,  
8 N. Front St., Philadelphia.

*Managers,*

WISTAR MORRIS,	CHARLES HARTSHORNE,
T. WISTAR BROWN,	JOHN B. GARRETT,
JAMES WHITALL,	EDWARD BETTLE, JR.,
JAMES CAREY THOMAS,	CHARLES ROBERTS,
PHILIP C. GARRETT,	EDWARD L. SCULL,
JAMES E. RHODS,	FRANCIS WHITE,
RICHARD CADBURY,	BENJAMIN H. SHOEMAKER,
DAVID SCULL, JR.,	HOWARD COMFORT,
RICHARD WOOD,	WILLIAM S. TAYLOR,
ROBERT B. HAINES,	WILLIAM PENN EVANS,
FRANCIS T. KING,	JOHN T. MORRIS,
WILLIAM R. THURSTON,	HENRY BETTLE,
GEORGE HOWLAND, JR.,	JUSTUS C. STRAWBRIDGE.

*Secretary of the Board,*

JOHN B. GARRETT.

---

*Executive Committee.*

JAMES WHITALL,	EDWARD BETTLE, JR.,
DAVID SCULL, JR.,	RICHARD CADBURY,
EDWARD L. SCULL,	PHILIP C. GARRETT,
CHARLES ROBERTS,	JUSTUS C. STRAWBRIDGE.

---

FACULTY.

---

THOMAS CHASE, LTT.D., LL.D., PRESIDENT,  
AND PROFESSOR OF PHILOLOGY AND LITERATURE.

PLINY EARLE CHASE, LL.D.,  
PROFESSOR OF PHILOSOPHY AND LOGIC.

ISAAC SHARPLESS, SC.D.,  
PROFESSOR OF MATHEMATICS AND ASTRONOMY,  
AND IN CHARGE OF THE DISCIPLINE.

ALLEN CLAPP THOMAS, A.M., PREFECT,  
AND PROFESSOR OF HISTORY, POLITICAL SCIENCE, AND RHETORIC.

LYMAN BEECHER HALL, PH.D.,  
JOHN FARNUM PROFESSOR OF CHEMISTRY AND PHYSICS.

EDWIN DAVENPORT, A.M.,  
PROFESSOR OF GREEK AND LATIN.

CHARLES EDWARD GAUSE, JR., S.B.,  
INSTRUCTOR IN MATHEMATICS, AND CURATOR OF THE MUSEUM.

HENRY CARVILL LEWIS, A.M.,  
LECTURER ON GEOLOGY AND PALEONTOLOGY.

WALTER A. FORD, M.D.,  
INSTRUCTOR IN PHYSICAL TRAINING AND DIRECTOR OF THE GYMNASIUM.

CHARLES M. BURNS, JR.,  
INSTRUCTOR IN DRAWING.

WILLIAM EARL MORGAN, A.M.,  
ASSISTANT IN THE ASTRONOMICAL OBSERVATORY.

WILLIAM FREDERICK WICKERSHAM,  
ASSISTANT LIBRARIAN.

RESIDENT GRADUATE.

WILLIAM EARL MORGAN, A.M.

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SENIOR CLASS.

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## CLASSICAL SECTION.

ALLEN, JOHN HENRY, . . .	Union Springs, N. Y.
BATES, ORREN WILLIAM, . .	Oneco, Conn.
CHASE, THOMAS HERBERT, .	Haverford College, Pa.
HAINES, WILLIAM JONES, . .	Cheltenham, Pa.
HALL, ARTHUR DILWYN, . .	Lynn, Mass.
JACOB, CHARLES RICHARD, .	Mansfield, Mass.
SMITH, ALFRED PERCIVAL, .	Germantown, Pa.

## SCIENTIFIC SECTION.

HILL, LOUIS TABER, . . .	Mt. Pleasant, O.
MOORE, WALTER LINTON, . .	Ercildoun, Pa.

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GUMMERE, WILLIAM HENRY, .	Burlington, N. J.
VAUX, GEORGE, JR., . . .	Philadelphia, Pa.
WHITE, FRANCIS ALBERTSON, .	Baltimore, Md.

JUNIOR CLASS.

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*CLASSICAL SECTION.*

BETTLE, SAMUEL, . . . . .	Camden, N. J.
FERRIS, WILLIAM TABER, . . .	Poughkeepsie, N. Y.
HILLES, WILLIAM SAMUEL, . . .	Wilmington, Del.
HUSSEY, WILLIAM TIMOTHY, . .	North Berwick, Me.
JONES, ARTHUR WINSLOW, . . .	South China, Me.
JONES, RUFUS MATTHEW, . . .	South China, Me.
MARKLEY, JOSEPH LYBRAND, . .	Marsh, Pa.
MORRIS, MARRIOTT CANBY, . . .	Germantown, Pa.
MURRAY, AUGUSTUS TABER, . . .	New Bedford, Mass.
REEVE, AUGUSTUS HENRY, . . .	Camden, N. J.
REEVE, WILLIAM FOSTER, . . .	Camden, N. J.
WHITE, ELIAS HENLEY, . . . .	Raysville, Ind.
WICKERSHAM, WM. FREDERICK, .	Kennett Square, Pa.

*SCIENTIFIC SECTION.*

BAILY, CHARLES WINTER, . . .	Philadelphia, Pa.
BLAIR, JOHN JAY, . . . . .	High Point, N. C.
DOAN, ENOS L., . . . . .	Valley Mills, Ind.
RICHARDS, THEODORE WILLIAM, .	Germantown, Pa.
SMITH, LLOYD LOGAN, . . . .	Germantown, Pa.
WILSON, MATTHEW TERRELL, . .	Spiceland, Ind.



## SOPHOMORE CLASS.

### CLASSICAL SECTION.

DICKINSON, JONATHAN, JR., . . .	Poughkeepsie, N. Y.
GODDARD, HENRY HERBERT, . . .	E. Vassalborough, Me.
SCOTT, ALEXANDER HARVEY, . . .	Philadelphia, Pa.
SLOCUM, ALLISON WING, . . .	Dartmouth, Mass.
SMITH, HORACE EUGENE, . . .	Philadelphia, Pa.
TUNIS, JOSEPH PRICE, . . .	Philadelphia, Pa.
WADSWORTH, EDW. DORLAND, . .	Hallowell, Maine.

### SCIENTIFIC SECTION.

BACON, JOHN, . . . . .	Greenwich, N. J.
BETTS, THOMAS WADE, . . . .	Wilmington, Ohio.
BROOKE, HUGH JONES, . . . .	Media, Pa.
JOHNSON, GUY ROCHE, . . . .	Longdale, Va.
McFARLAND, WILLIAM STUART, .	Mt. Laurel, N. J.
MORRIS, ISRAEL, JR., . . . .	Philadelphia, Pa.
MORRIS, WILLIAM PAUL, . . . .	Philadelphia, Pa.
SAVERY, WILLIAM H., . . . .	Wilmington, Del.
TROTTER, FRANCIS LAURIE, . . .	Philadelphia, Pa.
UNDERHILL, ALFRED MOTT, JR., .	Poughkeepsie, N. Y.
UNDERHILL, JOSEPH TURNER, . .	Poughkeepsie, N. Y.
WHITE, WILFRED WALTON, . . .	Raysville, Ind.
LIPPINCOTT, SAMUEL PARRY, . .	Cheltenham Hills, Pa.
STARR, ISAAC TATNALL, . . . .	Cheltenham Hills, Pa. *

## FRESHMAN CLASS.

*CLASSICAL SECTION.*

ADAMS, JAY HOWE, . . . .	Philadelphia, Pa.
CASSATT, EDWARD BUCHANAN, .	Haverford Coll., Pa.
DEAN, WILLIAM, . . . .	N. Ferrisburgh, Vt.
GARRETT, ALFRED COPE, . .	Germantown, Pa.
FUTRELL, WILLIAM HARRISON, .	Rich Square, N. C.
HERENDEEN, FRANCIS ALBERT,	Geneva, N. Y.
MACLEAR, WALTER, . . . .	Wilmington, Del.
PHILIPS, JESSE EVANS, . . . .	E. Nantmeal, Pa.
STOKES, HENRY WARRINGTON, .	Germantown, Pa.
STRAWBRIDGE, FREDERIC HEAP,	Germantown, Pa.
TANNER, CLARENCE LINCOLN, .	Sidney, Me.
WOOD, GEORGE BACON, . . . .	Philadelphia, Pa.
YARNALL, HAROLD ELLIS, . .	Haverford Coll., Pa.

*SCIENTIFIC SECTION.*

BARR, ERNEST KIRBY, . . . .	Philadelphia, Pa.
BEDELL, CHARLES HAMPTON, .	Poughkeepsie, N. Y.
CHASE, ALFRED, . . . .	Haverford Coll., Pa.
CHILLMAN, EDWARD FENIMORE,	Philadelphia, Pa.
EVANS, HORACE YOUNG, JR., .	Philadelphia, Pa.
GRAFFLIN, FREDERICK LINCOLN,	Baltimore, Md.
JANNEY, JOHN HALL, . . . .	Brighton, Md.
LEWIS, EDMUND COLEMAN, . .	Philadelphia, Pa.
MORRIS, P. HOLLINGSWORTH, .	Wynnewood, Pa.
MOWRY, ALLAN McLANE, . .	Greenwich, N. Y.
PURDY, ELLISON REYNOLDS, .	Palmyra, N. Y.
TRIMBLE, WILLIAM WEBSTER, .	Harrisonville, Ohio.
TROTTER, FREDERICK NEWBOLD,	Philadelphia, Pa.

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WRIGHT, WILLIAM MOORHEAD,	Philadelphia, Pa.
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## SUMMARY.

Seniors and Special Students, .	12
Juniors, . . . . .	19
Sophomores and Special Students,	21
Freshmen and Special Student, .	27
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Total of Undergraduates, .	79
Resident Graduate, . . . .	1
	—
Total, . . . . .	80

## CALENDAR.

College Year,* 1883-84, began with the beginning of the Autumn Term, 1883, .	9th Mo. 12.
Winter Recess began . . . . .	12th Mo. 21.
Winter Term began, 1884, 2 P.M., . . .	1st Mo. 2.
Mid-year Examinations began . . . . .	1st Mo. 23.
Second Half-year began . . . . .	1st Mo. 31.
Oration before the Loganian Society, . .	4th Mo. 17.
Junior Exercises, 6th Day, . . . . .	4th Mo. 18.
Spring Recess begins . . . . .	4th Mo. 18.
Spring Term begins* . . . . .	4th Mo. 28.
Public Oration for the Alumni Prize, . .	5th Mo. 29.
Public Meeting of the Loganian Society, .	6th Mo. 23.
Address to the Graduating Class, . . .	6th Mo. 24.
Commencement Day, 1884, . . . . .	6th Mo. 24.
Examinations for Admission, 2 P.M., . .	6th Mo. 24.

## VACATION OF TWELVE WEEKS.

Examinations for Admission, 9 A.M.,† . .	9th Mo. 16.
College Year, 1884-85, begins* . . . .	9th Mo. 17.
Alumni Meeting, . . . . .	10th Mo. 4.
Alumni Oration, . . . . .	10th Mo. 4.
Winter Recess begins . . . . .	12th Mo. 21.
Winter Term begins, 1885, 2 P.M., . . .	1st Mo. 2.
Second Half-year begins . . . . .	1st Mo. 31.
Spring Recess begins . . . . .	4th Mo. 17.
Commencement Day, 1885, . . . . .	6th Mo. 23.
College Year, 1885-86, begins* . . . .	9th Mo. 16.

\* The first recitations are due promptly at *half-past nine o'clock*, at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

† See also page 15.

## REQUISITES AND TERMS OF ADMISSION.

CANDIDATES for admission to the Freshman Class in the CLASSICAL COURSE will be examined as to their proficiency in the following requisites:

CLASSICS.—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in *Latin and Greek Grammar*, to be tested, in part, by *writing* sentences in Latin and Greek; acquaintance with Prosody, to be proven by *scanning verses* from Virgil; and, in general, a sufficient knowledge of both languages to enable one to pursue, with facility and advantage, the studies of the Freshman year. Candidates will be examined in Cæsar, Cicero, Virgil, and Xenophon or the Greek Reader; or equivalents. Teachers are advised to exercise their pupils from the very first in *writing* both Greek and Latin.

MATHEMATICS.—*Arithmetic*, including the *Metric System*; *Algebra*, to Quadratic Equations; *Geometry*, in the first four books of Sharpless's *Geometry*; or their equivalents.

ENGLISH.—*Spelling, Grammar, English Composition, Civil Geography, Physical Geography*, the elements of *Greek and Roman History* (as in Pennell's *Elements*, or their equivalents), and the *History of the United States*. The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics. Acquaintance with the elements of the *History of England* will be found advantageous.

DRAWING.—Practice in Free Hand Drawing, from childhood up, is earnestly recommended as an important part of the preparation for advanced studies.

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Classical Course, except in the Greek language, and will also be examined in the elements of *Physics* and of *Botany*, or in studies deemed by the Faculty of equivalent value.

Satisfactory examination-papers, written under proper supervision at first-class schools, and forwarded or reported to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and also on subsequent examination thoroughly fitted in all the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that “the College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society.”

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismission in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to President

THOMAS CHASE, LL.D., Haverford College P. O., Montgomery Co., Pa. Candidates will present themselves at Founders' Hall, for examination by the Faculty, *at 2 o'clock on Commencement day, or at 9 o'clock on the morning previous to the beginning of the half year, or of the College term,* at which they desire to enter.

The price of Board and Tuition (together with fuel, lights, and all necessary furniture and service), is \$425.00 per annum, payable to the Prefect, one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students who dine at the College, the annual charge is \$250.00.

There is a telegraph office and an Adams Express office at the College Station, and there is a U. S. Money-order office at Bryn Mawr, Montgomery Co., Pa., one mile from the College.

For further information, and for circulars and catalogues, address Professor ALLEN C. THOMAS, Prefect, Haverford College, Montgomery Co., Pa.

## COURSES OF INSTRUCTION.

## CLASSICAL COURSE.

## FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
2. *Mathematics*. Sharpless's Geometry; Wells's University Algebra. Four hours a week.
3. *Greek*. Xenophon's Hellenica, or an equivalent; Herodotus; Homer; Review of Greek Grammar; Translations at sight.
4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.
5. *Latin*. Livy (Chase); The Odes of Horace, Books I and II (Chase); Review of Latin Grammar; Translations at sight.
6. *Latin Prose Composition*. Bennett. Subjects 5 and 6, four hours a week.
7. *Rhetoric and Composition*. Principles of Rhetoric (A. S. Hill); Composition. One hour a week.
8. *History*. History of Greece; History of Rome; Chronology.
9. *Zoology*. *Hygiene*. *Physiography*. *Botany*. Subjects 8 and 9, three hours a week.
10. *Drawing*. Free Hand Drawing from Objects. One hour a week.

## SOPHOMORE CLASS.

1. *Scripture*. The New Testament (English and Greek). One hour a week.



2. *Mathematics*. Gummere's Trigonometry and Surveying, with Field Practice; Wentworth's Plane and Spherical Trigonometry; Advanced Algebra. Three hours a week.

3. *Greek*. The Iliad and Odyssey of Homer; Plato's Apology and Crito, or Phaedo; The Prometheus of Æschylus; Translations at sight.

4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin*. Horace, Books III and IV of the Odes; Satires and Epistles; The Germania and Agricola of Tacitus; Translations at sight.

6. *Latin Prose Composition*. Abbott. Subjects 5 and 6, three hours a week the first half year, two hours the second.

7. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

8. *English Literature*. Lectures; Lives and Works of English Authors. One hour a week the first half year.

9. *Rhetoric*. Whately's Rhetoric, Part III.

10. *Political Science*. Cooley's Principles of Constitutional Law; International Law; Constitution of the United States. Subjects 9 and 10, two hours a week the second half year.

11. *Physics*. Natural Philosophy; Lectures. Three hours a week the first half year.

12. *Chemistry*. Eliot and Storer's Chemistry; Lectures. Three hours a week the second half year.

13. *Drawing*. Free Hand Drawing from Objects. One hour a week.

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## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

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2. *Mathematics*. Peck's Analytical Geometry. Three hours a week the first half year.

3. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

4. *Greek*. Thucydides; The Antigone of Sophocles; The Medea of Euripides; Exercises in writing Greek. Two hours a week. (Students who desire it, may take Calculus in the second half year in the place of Greek, without losing the right to take Greek in the Senior year.)

5. *Latin*. Cicero's Tusculan Disputations and Somnium Scipionis (Chase); Pliny's Letters; Virgil's Bucolics and Georgics; The Captives of Plautus; Exercises in writing Latin. Two hours a week.

6. *German*. Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts; Translations at sight. Two hours a week.

7. *Geology*. Dana's Text-Book. Two hours a week the first half year.

8. *Rhetoric*. Whately's Rhetoric; Themes.

9. *Political Science*. Political Economy; History of American Politics; Forensics. Subjects 8 and 9, two hours a week the first half year, one hour a week the second.

10. *History*. History of the Middle Ages.

11. *Logic*. Whately and Hamilton; or Jevons.

12. *Psychology*. Haven's Mental Philosophy (begun). Subjects 11 and 12, three hours a week the second half year.

13. *Elocution*. Rehearsals for Public Exercises.

14. *Drawing*. (For students who have not attained a sufficient proficiency, or as a voluntary study for others.) One hour a week.

#### ELECTIVE STUDIES.

(Two hours a week to be selected.)

1. *Descriptive Geometry, Shades and Shadows, and Perspective*. Two hours a week the first half year.

2. *Chemistry*. Qualitative Analysis; Laboratory Practice. Twice a week the first half year, counting as two hours of recitation.

3. *Mathematics*. Peck's Differential and Integral Calculus. Two hours a week the second half year.

4. *French*. Knapp's or Otto's Grammar; Voyage autour de ma Chambre; Fénelon's Têlémaque; Histoire de Charles XII; Exercises. Three hours a week the second half year, counting as two hours. (Students sufficiently advanced may recite in French with the Senior Class.)

5. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.

## SENIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament continued. One hour a week.

2. *Latin and Classical Literature*. Chase's Selections from Juvenal; Cicero's Letters; Latin Poetry; The Ancient Pronunciation of Latin; Latin Composition; History of the Literatures of Greece and Rome. Two hours a week.

3. *French*. Grammar, Translation, and Exercises. (Required in lieu of one of the elective studies, of those members of the Senior Class who have not previously studied French.) Three hours a week the second half year, counting as two hours.

4. *Anglo-Saxon*. One hour a week the second half year.

5. *Philology, etc.* Keary's Dawn of History. One hour a week the first half year.

6. *Psychology*. Haven continued; Bowne's Metaphysics; Lectures. Two hours a week the first half year.

7. *Natural and Revealed Religion*. Butler's Analogy. Two hours a week the first half year.

8. *Christian Doctrines*. Barclay or Gurney. One hour a week the second half year.

9. *English*. Philological Study; History of the English Language; Milton's *Areopagitica*; Chaucer; Themes. One hour a week the second half year.

10. *History*. Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Stillé's Studies in Mediæval History; Seebohm's Protestant Revolution. Two hours a week.

11. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.

12. *Elocution and Composition*. A Public Oration at Commencement.

#### ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Analytical Mechanics*. Two hours a week through the year.

2. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory. Two hours a week through the year. (Courses 1 and 2 are open only to those who have studied Calculus in the Junior year.)

3. *Civil and Sanitary Engineering*. Mahan; Henck; Waring; Field Practice. Two hours a week.

4. *Physics*. Acoustics; Optics; Electricity; Magnetism. Two hours a week.

5. *Chemistry*. Analysis and other Experimental Practice. Twice a week.

6. *Classical Philology, and Greek*. Demosthenes on the Crown, or an equivalent; Greek Pastoral and Lyric Poets; Greek Composition; Papillon's Greek and Latin Inflections; Peile's Greek and Latin Etymology, with Curtius, Vaniček, and Corssen for reference; Curtius's and Roby's Grammars for reference; Inscriptions. Two hours a week.

7. *Psychology*. Berkeley; Bowne (continued). Two hours a week the second half year.

8. *English History*. Green's Short History of the English People ; Gardiner's Introduction to English History.

9. *Ecclesiastical History*. Smith ; Stanley ; Trench.

10. *German*. Auerbach's Brigitta, or an equivalent in prose ; Schiller's Wilhelm Tell ; Review of the Grammar ; Oral and Written Exercises. Two hours a week.

11. *French*. Taine's Essays ; Racine's *Athalie* ; Molière or Corneille ; Grammar ; Oral and Written Exercises. Three hours a week, counting as two hours. (Advanced German or French may be dropped in the second half year by students who wish to take Calculus or Psychology in place of either of them.)

12. *Hebrew*. Grammar ; Exercises ; Translations from the Old Testament. Two hours a week.

13. *Peck's Differential and Integral Calculus*. Two hours a week the second half year.

## SCIENTIFIC COURSE.

### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.

2. *Mathematics*. Sharpless's Geometry ; Wells's University Algebra. Four hours a week.

3. *Latin*. Livy (Chase) ; Horace (Chase) ; Review of Latin Grammar ; Translations at sight.

4. *Latin Prose Composition* (Bennett). Subjects 3 and 4, four hours a week.

5. *Rhetoric and Composition*. Principles of Rhetoric (A. S. Hill) ; Composition. One hour a week.

6. *Physics*. Natural Philosophy ; Lectures. Three hours a week the first half year.

7. *Chemistry*. Eliot and Storer ; Lectures. Three hours a week the second half year.

8. *History*. History of Greece ; History of Rome ; Chronology.

9. *Zoology, Hygiene, Physiography, Botany.* Subjects 8 and 9, three hours a week.

10. *Drawing.* Free Hand Drawing from Objects. One hour a week.

### SOPHOMORE CLASS.

1. *Scripture.* The New Testament. One hour a week.

2. *Mathematics.* Gummere's Trigonometry and Surveying, with Field Practice; Wentworth's Plane and Spherical Trigonometry; Advanced Algebra. Three hours a week.

3. *French.* Knapp's or Otto's Grammar; Voyage autour de ma Chambre; Fénelon's *Télémaque*; Histoire de Charles XII; Exercises. Three hours a week the second half year.

4. *German.* Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts; Translations at sight. Two hours a week.

5. *Ethics and Christian Evidences.* Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

6. *English Literature.* Lectures; Lives and Works of English Authors. One hour a week the first half year.

7. *Rhetoric.* Whately's Rhetoric, Part III.

8. *Political Science.* Cooley's Principles of Constitutional Law; International Law; Constitution of the United States. Subjects 7 and 8, two hours a week the second half year.

9. *Chemistry.* Qualitative Analysis; Laboratory Practice. Twice a week the first half year, counting as two hours of recitation.

10. *Chemical Philosophy; Chemistry of Carbon Compounds.* Two hours a week the second half year.

11. *Physics.* Deschanel; Heat. Two hours a week the first half year.

In alternate years, subjects 10 and 11 will be studied in the Junior year in place of course 12 of that year.

12. *Natural History.* Advanced Zoology and Biology (or an equivalent). Two hours a week the first half year.

13. *Drawing*. Mechanical Drawing from Objects, Geometrical Solids, etc.; Isometric and Perspective Drawing. Three hours a week, counting as one hour.

\* \* Latin, French, or Elementary Greek, may be taken in the place of Natural History.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible; or, the Greek Testament (for students having a sufficient knowledge of Greek). One hour a week.

2. *Mathematics*. Peck's Analytical Geometry; Peck's Differential and Integral Calculus. Three hours a week the first half year and two the second.

3. *Mathematics*. Descriptive Geometry; Isometric Projection, Shades and Shadows, and Perspective. Two hours a week for the first half year.

4. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

5. *German*. Auerbach's Brigitta, or an equivalent of prose; Schiller's Wilhelm Tell; Review of the Grammar; Oral and Written Exercises. Two hours a week.

6. *Geology*. Dana's Text-Book. Two hours a week the first half year.

7. *Rhetoric*. Whately's Rhetoric; Themes.

8. *Political Science*. Political Economy; History of American Politics; Forensics. Subjects 7 and 8, two hours a week the first half year, one hour the second.

9. *History*. History of the Middle Ages.

10. *Logic*. Whately and Hamilton; or, Jevons.

11. *Psychology*. Haven's Mental Philosophy (begun). Subjects 10 and 11, three hours a week the second half year.

12. *Physics*. Acoustics; Optics; Electricity; Magnetism. Two hours a week.

In alternate years this subject will be studied in the Sophomore year in place of courses 10 and 11 of that year.



13. *Elocution*. Rehearsals for Public Exercises.

## ELECTIVE STUDIES.

(One subject to be selected.)

1. *Chemistry*. Qualitative and Quantitative Analysis. Twice a week, counting as two hours of recitation.

2. *Mineralogy*. Practical Exercises in Crystallography and Determination of Minerals; Dana's Text-Book. Two hours a week the second half year. (Elective subjects 3, 4, or 5, may be dropped in order to take this course.)

3. *French*. Taine's *Essais*; Racine's *Athalie*; Molière or Corneille; Grammar; Oral and Written Exercises. Three hours a week, counting as two hours.

4. *Elementary Greek*. Grammar and Xenophon; Greek Testament; Scientific Nomenclature; Homer. Two hours a week.

5. *Latin*. Cicero's *Tusculan Disputations*; Pliny; Latin Poetry. Two hours a week.

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible, or Greek Testament. One hour a week.

2. *Analytical Mechanics*. Two hours a week.

3. *French*. (Same as the elective French in the Junior year.) Three hours a week, counting as two hours. Required in lieu of an elective study of those who have not already studied French a year and a half.

4. *Anglo-Saxon*. One hour a week the second half year.

5. *Philology, etc.* Keary's *Dawn of History*. One hour a week the first half year.

6. *Psychology*. Haven (continued); Bowne's *Metaphysics*; Lectures. Two hours a week the first half year.

7. *Natural and Revealed Religion*. Butler's *Analogy*. Two hours a week the first half year.

8. *Christian Doctrines*. Barclay or Gurney. One hour a week the second year.



9. *English*. Philological Study ; History of the English Language ; Milton's *Areopagitica* ; Chaucer ; Themes. One hour a week the second half year.

10. *History*. Hallam's Constitutional History of England ; Guizot's History of Modern Civilization ; Stillé's Studies in Mediæval History ; Seeböhm's Protestant Revolution. Two hours a week.

11. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.

12. *Composition and Elocution*. A Public Oration at Commencement.

## ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Astronomy*. Loomis's Practical Astronomy, with special practice in the observatory. Two hours a week through the year.

2. *Experimental Physics*. Physical Measurements. Twice a week. (Open only to such students as have shown a marked proficiency.)

3. *Chemistry*. Analysis, and other experimental practice. Twice a week.

4. *Civil and Sanitary Engineering*. Mahan, Henck, Waring ; Field Practice. Two hours a week.

5. *Psychology*. Berkeley ; Bowne (continued) ; Lectures. Two hours a week the second half year. (May be substituted for French.)

6. *Ecclesiastical History*. Smith ; Stanley ; Trench.

7. *English History*. Green's Short History of the English people ; Gardiner's Introduction to English History.

8. *Greek*. Homer (or other authors, in any year of the classical course) ; History of Greek Literature. Two hours a week.

9. *Latin*. Two hours a week the first half year.

10. *Hebrew*. Grammar ; Exercises ; Translations from the Old Testament. Two hours a week.

11. *Drawing*. (As a *voluntary* extra study.)

## LECTURES.

The Lectures and Courses of Lectures for the year 1883-84 are as follows :—

<i>The Cultivation of the Memory, and the Best Books to Read,</i> . . . . .	} LORD COLERIDGE.
<i>History in Poetry,</i> . . . . .	JAMES BRYCE, D.C.L.
<i>William Cowper,</i> . . . . .	PROF. THOMAS.
<i>Travel,</i> . . . . .	CHARLES WOOD, A.M.
<i>The Tariff Question,</i> . . . . .	JONATHAN CHASE, M.C.
<i>The Tariff Question,</i> . . . . .	JAMES WOOD, A.M.
<i>Alfred Tennyson,</i> . . . . .	PRESIDENT CHASE.
<i>Darwinism,</i> . . . . .	} PROF. P. E. CHASE.
<i>Europe in 1883,</i> . . . . .	
<i>English Poets,</i> . . . . .	PROF. CORSON.
<i>The Geology of Southeastern Pennsylvania,</i> . . . . .	} PROF. LEWIS.
<i>Thomas Hood,</i> . . . . .	PROF. THOMAS.
<i>The Italian Republics,</i> . . . . .	PROF. DAVENPORT.
<i>A Vacation Journey,</i> . . . . .	PRESIDENT CHASE.

## EVENING READINGS.

Evening Readings, consisting chiefly of selections from ancient and modern classics, are given frequently during the year. The attendance is voluntary.

The course for the year 1883-84 is :—

<i>Virgil,</i> . . . . .	PRESIDENT CHASE.
<i>Minor English Poets,</i> . . . . .	PROFESSOR THOMAS.

## VOLUNTARY STUDIES.

There are voluntary classes this year in SANSKRIT (Whitney's Grammar; the Hitopadeśa); and in ITALIAN (Grammar; the Divina Commedia).

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## EXAMINATIONS.

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In determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are written examinations of each class in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts or that of Bachelor of Science. These examinations are calculated to test as accurately as possible the scholarly habits of the students, and the attainments which they have made.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. But no student is entitled to such advancement, whatever his numbers or rank, unless, in the judgment of his instructors and caretakers, he has been faithful in his daily studies and satisfactory in his character and conduct.

The *viva voce* examinations are made in the daily recitations. Marks are given for each recitation attended; but special examinations are frequently used as an element in determining them. The average of these marks is combined with the average obtained in the semi-annual examinations, to find a student's rank.

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## ADVANCED DEGREES.

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BACHELORS OF ARTS and BACHELORS OF SCIENCE of three years' standing may take the degree of MASTER OF ARTS, or that of MASTER OF SCIENCE, on submitting to the

Executive Committee satisfactory evidence of continued good moral character, and passing an examination on some literary or scientific course of study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate courses of study to be presented by candidates for the second degree :

I. The whole of the New Testament in Greek, with Winer's or Buttmann's N. T. Grammar, Grimm's Lexicon, and Scrivener's Introduction.

II. The whole of Thucydides, together with Grote and Curtius on the Peloponnesian War.

III. Ten Tragedies of Æschylus, Sophocles, or Euripides.

IV. Cicero's Tusculan Disputations (five books), De Natura Deorum, and De Officiis, together with the History of Ancient Philosophy.

V. The whole of Tacitus, together with Merivale.

VI. Gervinus's History of Modern Europe, or Schiller's History of the Thirty Years' War and Wallenstein (all the parts), in the original German; together with a thorough examination in the nicer points of German Grammar and composition, and in translation at sight, both from German (not before read) into English, and from English into German.

VII. The Nicomachean Ethics of Aristotle (in the original); Jouffroy's Introduction to Ethics, and Whewell's Ethics.

VIII. Greek Literature, with translations at sight from any of the leading authors, and a short original essay in Greek on some topic connected with this subject.

IX. Latin Literature, with translations at sight from any of the leading authors, and an original essay in Latin.

X. Thermodynamics.

XI. Theoretical Astronomy (Watson and Gauss).

XII. Practical Astronomy (Chauvenet).

XIII. Rankine's Applied Mechanics, or Rankine's Civil Engineering.

XIV. Freeman's History of the Norman Conquest, Green's larger History of England, and Stubb's, Hallam's, and May's Constitutional Histories; Bagehot's English Constitution.

XV. American History (Bancroft, Hildreth, Parkman, Frothingham's Rise of the Republic, Curtis's History of the Constitution, Von Holst's Constitutional History of the United States, The Federalist).

XVI. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Benfey, Fick, Leo Meyer, Pezzi). Some knowledge of Sanskrit will be expected of candidates in this course.

XVII. Modern Languages. Courses similar to VI, VIII, and IX may be offered in any modern language other than English. A high degree of proficiency will be required.

XVIII. Ecclesiastical History.

Candidates who are examined may also, if they desire, hand in Dissertations on topics in their field of study which they have specially investigated.

Resident Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree before the expiration of three years, if the Faculty deem it proper.

Masters of Arts and Science may be examined for the degrees of DOCTOR OF PHILOSOPHY and DOCTOR OF SCIENCE; but such degrees will be conferred only after satisfactory proof of the faithful and successful prosecution of courses of study fully equal in extent and quality to those required for similar honors in the best Universities.

Notice of application for examination must be given to the Prefect two months before Commencement. The examinations will be held the last week in the Fifth month, and no later. The fee for the Diploma of the Second Degree is Twenty Dollars, of subsequent degrees, Thirty Dollars, to be paid to the Prefect in all cases before the 10th of the Sixth month.

## Alumni Prize For Composition and Oratory.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE of a Gold Medal, or of Books of equal value, for excellence in Composition and Oratory.

The prize was awarded last year to CHARLES RICHARD JACOB, of the class of 1884, for his Oration on "William Lloyd Garrison."

The following are the Regulations governing the competition:

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall, on the evening of the last Sixth day in the Fifth month, hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the prize, if the elocution and the literary merits of the orations fall below a suitable standard of excellence.

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## LIBRARY.

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LIBRARIAN, Professor Allen C. Thomas; William F. Wickersham, *Assistant*. COMMITTEE in charge of the Library, Richard Wood, *Chairman*; Philip C. Garrett, Charles Roberts, Edward Bettie, Jr., Edward L. Scull, Howard Comfort.

The number of bound volumes in the Library Hall, accessible to the members of the College, is 14,535. Of these the LIBRARY OF HAVERFORD COLLEGE contains 10,063 vol-

umes; that of the LOGANIAN SOCIETY, 2504; those of other societies, 1968. Numerous American and European periodicals, scientific and literary, are taken in by the Library.

The income of a fund of ten thousand dollars is devoted annually to the increase of the Library.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves may be freely consulted.

A CARD CATALOGUE of the College and the Society Libraries shows at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

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## MUSEUM, LABORATORY, AND APPARATUS.

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THE MINERALOGICAL COLLECTION contains over 3000 specimens, including the collection of the late Dr. Troost. THE GEOLOGICAL CABINET comprises about 2500 specimens, and contains complete suits illustrating the Geology of New York and South Carolina, prepared for the College by the late Lardner Vanuxem. Collections of fossils and of shells were purchased in 1879. Donations have been received in 1880 from the State Geological Survey, and in 1881 and 1882 from William S. Vaux.

The cabinets of Natural History and curiosities which belonged to the Loganian Society have been presented to the College. A large and very valuable collection of Birds have been given by David Scull, Jr., to which the Hannah W. Scull collection of birds' eggs is a valuable adjunct.



A set of clastic models, made by Auzoux, of Paris, exhibiting by dissection the actual appearance and anatomy of the minute, as well as the larger organs of the human body, and of interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY, also a collection of casts of FOSSIL SPECIES in Natural History, made by Professor Ward, of Rochester, have been presented to the Museum by Richard Wood.

EXTENSIVE APPARATUS is furnished for the illustration of Natural Philosophy and Chemistry.

THE CHEMICAL LABORATORY is commodious, and thoroughly furnished with the most approved appliances.

THE GYMNASIUM was refitted early in 1881 with the apparatus of Dr. D. A. Sargent, Director of the Hemenway Gymnasium of Harvard University. A competent teacher, a graduate of Jefferson Medical College and a pupil of Dr. Sargent, has direction of it, and gives systematic instruction, based upon careful personal examination, to each student desiring such aid.

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## ASTRONOMICAL OBSERVATORY.

THE HAVERFORD OBSERVATORY affords the students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two Equatorial Telescopes, one just finished by Clark, having an object-glass 10 inches in diameter, and one with an object glass of  $8\frac{1}{4}$  inches, with filar micrometer, ring micrometer, and eye-pieces; a polarizing eye-piece; a Newtonian Reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Grubb spectroscope; a Meridian Transit Circle, having a Telescope of 4 inches aperture,



with a circle at each end of the axis 26 inches in diameter, one reading by 4 verniers to 2", the other used simply as a finder; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; 2 Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 45''$  N.; its longitude, 6 m. 59.4 sec. East from Washington.

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## SOCIETIES.

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THE LOGANIAN SOCIETY was established by the Officers and Students in 1834. The exercises in its meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN." It has in its possession a carefully-selected Library of 2504 volumes, and a cabinet of medals and coins.

THE ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 1968 volumes.

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## SITUATION OF THE COLLEGE.

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The College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST-OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County*, Pa. The buildings are surrounded by grounds of upwards of sixty acres, tastefully laid out, and adorned with well-kept lawns and a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base-ball, foot-ball, archery, and lawn-tennis.

THE FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; and BARCLAY HALL in 1876-77. Barclay Hall, a beautiful edifice of granite, 220 by 40 feet, contains the private studies and dormitories. It is furnished with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining-room, recitation-rooms, and Museum are in the Founders' Hall, which was remodelled internally in 1878 and 1882.

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## INSTRUCTION AND DISCIPLINE.

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The courses of instruction at Haverford, aiming at thorough and generous training, embrace the standard studies proved by long experience to be the most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent times. Both courses are designed to give a broad, as well as thorough, culture, so that the Baccalaureate Degrees, whether in Arts or Science, may attest a comprehensive and truly liberal Education.

As the students form one household, Religious Instruction is carefully provided. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the classical course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, and Barclay's Apology or Gurney's Essays,

form part of the regular course of study. Loyal to all truth, Haverford College inculcates faithfully the simple and immutable truths of pure religion.

In the discipline of the college, the officers endeavor to promote habits of diligence, order, and regularity. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.

DEGREES GRANTED IN 1883.

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At the Commencement in 1883 Degrees were granted,  
in course, to the following graduates:

## BACHELORS OF ARTS.

JOHN BLANCHARD,  
FRANK E. BRIGGS,  
GEORGE H. EVANS,  
FRANCIS B. STUART,  
BOND V. THOMAS,  
THOMAS K. WORTHINGTON.

## BACHELORS OF SCIENCE.

WILLIAM L. BAILY,  
STEPHEN W. COLLINS,  
D. WILLIAM EDWARDS,  
WILLIAM E. SCULL,  
SAMUEL B. SHOEMAKER,  
JOHN S. SPRUANCE,  
W. ALPHEUS WHITE,  
CHARLES H. WHITNEY,  
LOUIS B. WHITNEY.

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The following degrees were granted upon examination :

### MASTER OF ARTS.

L. LYNDON HOBBS (Class of 1876).

JOSEPH RHOADS, JR. (Class of 1880).

The degree of MASTER OF ARTS was bestowed *honoris causa* upon

JAMES WOOD,

HENRY NEWELL HONIE.

### DOCTOR OF LAWS.

The degree of DOCTOR OF LAWS was bestowed *honoris causa* upon

THOMAS FERRIS COCK (Class of 1836).

## PROGRAMME OF RECITATIONS

FOR THE

FIRST HALF-YEAR 1883-4.

## SECOND-DAY.

	9.30-10.30		11-12		2-3		3-4
SENIORS.....	Scripture.	.....	Butler's Anal.	.....	Engineer'g.	.....	German.
JUNIORS.....	Scripture.	.....	Anal. Geom.	.....	.....	.....	Greek.
							<i>German.</i>
SOPHOMORES.	Scripture.	.....	Ethics.	.....	.....	.....	Surveying.
FRESHMEN....	Scripture.	.....	Latin A.	.....	Latin B.	.....	Geometry.

## THIRD-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....	Latin.	.....	Mechanics.	.....	Psychology.	.....	French.	.....	Greek.
JUNIORS.....	<i>Des. Geom.</i>	.....	German.	.....	Latin.	.....	<i>Ele. Greek.</i>	.....	
					<i>Physics.</i>	.....	<i>French.</i>	.....	Anal.Chem.
SOPHOMORES.	Nat. Philos.	.....	<i>German.</i>	.....	Greek.	.....	Anal.Chem.	.....	Latin.
					<i>Physics.</i>	.....	<i>Anal.Chem.</i>	.....	<i>Anal. Chem.</i>
FRESHMEN....	Greek.	.....	.....	.....	Geometry.	.....	.....	.....	Physical Geog.
	<i>Nat. Philos.</i>	.....							

## FOURTH-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....	History.	.....	.....	.....	Butler's Anal.	.....	Engineer'g.	.....	Astronomy.
JUNIORS.....	.....	.....	German.	.....	Anal. Geom.	.....	Anal.Chem.	.....	<i>Ele. Greek.</i>
									Anal.Chem.
SOPHOMORES.	Surveying.	.....	<i>German.</i>	.....	Nat. Philos.	.....	<i>Anal.Chem.</i>	.....	Greek.
FRESHMEN....	Latin A.	.....	.....	.....	Greek.	.....	Latin B.	.....	<i>Anal. Chem.</i>
					<i>Nat. Philos.</i>	.....		.....	Rhetoric.

## FIFTH-DAY.

	8.30-9.30		9.30-10.30		11-12		2-3		3-4
SENIORS.....	French.	.....	History.	.....	Meeting.	.....	French.	.....	Latin.
JUNIORS.....	<i>French.</i>	.....	Latin.	.....	Meeting.	.....	<i>French.</i>	.....	Geology.
			<i>Physics.</i>	.....					
SOPHOMORES.	Greek.	.....	Drawing.	.....	Meeting.	.....	.....	.....	Latin.
	<i>Mec. Draw'g.</i>	.....	<i>Physics.</i>	.....					<i>Le Conte.</i>
FRESHMEN....	Geometry.	.....	Drawing.	.....	Meeting.	.....	.....	.....	Rhetoric.

## SIXTH-DAY.

	9-10		10-11		11-12		2-3		3-4
SENIORS.....	Philosophy.	.....	Eng. Hist.	.....	Mechanics.	.....	.....	.....	Psychology.
JUNIORS.....	Geology.	.....	German.	.....	Rhetoric.	.....	<i>Mech. Draw'g.</i>	.....	Greek.
SOPHOMORES.	Eng. Lit.	.....	.....	.....	<i>Le Conte.</i>	.....	<i>Mech. Draw'g.</i>	.....	<i>Mech. Draw.</i>
					Nat. Philos.	.....		.....	Latin.
FRESHMEN....	Latin A.	.....	.....	.....	Greek.	.....	Latin B.	.....	Geometry.
					<i>Nat. Philos.</i>	.....			

## SEVENTH-DAY.

	8.30-9.30		9.30-10.30.
SENIORS.....	Greek.	.....	Astronomy.
	Eng. Hist.	.....	
JUNIORS.....	Anal. Geom.	.....	Rhetoric.
SOPHOMORES.	Ethics.	.....	Surveying.
FRESHMEN....	Latin.	.....	Physical Geography.

N. B.—Where the Scientific Course differs from the Classical, the subjects of the Scientific Course are printed in *Italics*.

## PROGRAMME OF RECITATIONS

FOR THE

SECOND HALF-YEAR 1883-4.

## SECOND-DAY.

	9.30-10.30	10.30-11	11-12	2-3	3-4
SENIORS.....	Scripture.	Sanskrit.	Christ. Doct.	Italian.	History.
JUNIORS.....	Scripture.	.....	Logic.	Italian.	Astronomy.
SOPHOMORES.	Scripture.	.....	Trigonometry.	Italian.	Paley's Evid's.
FRESHMEN....	Scripture.	.....	Latin A.	Latin B.	Algebra.

## THIRD-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Latin.	Astronomy. Anal. Chem.	German. Engineering. Anal. Chem.	Anatomy.	Calculus.
JUNIORS.....	Logic.	French.	Greek. <i>German.</i>	.....	Calculus. French.
SOPHOMORES.	.....	Latin. <i>French.</i>	Trigonometry.	.....	Chemistry.
FRESHMEN....	Latin. A.	.....	Zoology.	Latin. B.	Greek. <i>Chemistry.</i>

## FOURTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Anglo-Sax.	Astronomy.	English.	Greek.	Mechanics. <i>Physics.</i>
JUNIORS .....	Astronomy.	Anal. Chem.	German.	.....	Latin. <i>Physics.</i>
SOPHOMORES.	Politics.	Latin.	<i>German.</i>	.....	Greek.
FRESHMEN ....	Latin A.	.....	Algebra.	Latin B.	History.

## FIFTH-DAY.

	8.30-9.30	9.30-10.30	10-11	11-12	2-3	3-4
SENIORS .....	Calculus.	History.	Hebrew.	Meeting.	French.	Engineering.
JUNIORS.....	Greek.	French.	.....	Meeting.	Anal. Chem.	Anal. Chem.
SOPHOMORES.	Calculus.	.....	.....	.....	French.	German.
SOPHOMORES.	Greek.	Drawing.	.....	Meeting.	.....	Chemistry.
FRESHMEN....	<i>Mech. Draw'g. French.</i>	<i>French.</i>	.....	.....	Greek.	<i>German.</i> <i>Chemistry.</i>

## SIXTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Anatomy.	French.	Greek.	French.	Ecl. Hist.
JUNIORS.....	Latin.	Mechanics.	.....	Anal. Chem.	German.
SOPHOMORES.	<i>Physics.</i>	French.	Polit. Econ.	<i>French.</i>	.....
SOPHOMORES.	Greek.	<i>Mech. Draw'g.</i>	Chemistry.	.....	Paley.
FRESHMEN....	<i>Physics.</i>	.....	<i>Mech. Draw'g.</i>	.....	<i>German.</i>
FRESHMEN....	History.	.....	Greek. <i>Chemistry.</i>	.....	Algebra.

## SEVENTH-DAY.

	8.30-9.30	8.30-10.30
SENIORS.....	Latin.	.....
JUNIORS.....	Ecl. Hist.	.....
SOPHOMORES.	Logic.	Astronom.
SOPHOMORES.	Trigonom.	Politics.
FRESHMEN ...	Latin.	Algebra.

N. B.—Where the Scientific Course differs from the Classical, the subjects of the Scientific Course are printed in *Italics*.

## LIST OF GRADUATES AND HONORARY DEGREES.

(Degrees conferred by other institutions are indicated by *italics*.)

## GRADUATES.

1836.

Thomas F. Cock, *M.D.*, LL.D.  
Joseph Walton.

1837.

\*William C. Longstreth, \*1881.  
David C. Murray.  
Lindley Murray.  
\*Benjamin V. Marsh, \*1882.  
\*Joseph L. Pennock, \*1870.  
Robert B. Parsons.  
\*Charles L. Sharpless, \*1882.  
Lloyd P. Smith, A.M.  
\*B. Wyatt Wistar, \*1869.

1838.

\*James V. Emlen, *M.D.*, \*1880.  
John Elliott.

1839.

Frederick Collins.  
Thomas P. Cope.  
Henry Hartshorne, *M.D.*, A.M.  
Nereus Mendenhall, *M.D.*  
Richard Randolph, Jr., *M.D.*  
Charles Taber.

1840.

Joseph Howell.  
Anthony M. Kimber.  
\*Henry H. G. Sharpless, \*1870.  
\*John R. Winslow, *M.D.*, \*1866.

1841.

\*Richard H. Lawrence, \*1847.  
\*James P. Perot, \*1872.  
\*Elias A. White, \*1866.

1842.

Robert Bowne.  
Richard Cadbury.  
\*William S. Hilles, \*1876.

Thomas Kimber, Jr.  
James J. Levick, *M.D.*  
Edmund Rodman.  
Thomas R. Rodman.  
Benjamin R. Smith.  
Augustus Taber.  
Caleb Winslow, *M.D.*

1843.

Robert B. Howland.  
Francis White.  
\*William D. Stroud, *M.D.*, \*1883.

1844.

Evan T. Ellis.  
Robert B. Haines.  
Isaac Hartshorne.

1845.

Edmund A. Crenshaw.  
\*Robert Pearsall, \*1849.

1849.

Albert K. Smiley, A.M.  
Alfred H. Smiley, A.M.

1851.

Joseph L. Bailey.  
Philip C. Garrett.  
Thomas J. Levick.  
Franklin E. Paige, A.M.  
Zaccheus Test, *M.D.*, A.M.  
James C. Thomas, *M.D.*, A.M.  
Richard Wood.

1852.

Dougan Clark, *M.D.*  
Lewis N. Hopkins.  
William L. Kinsman.  
William E. Newhall.  
James Whitall.



1853.

William B. Morgan, A.M.  
William H. Pancoast, *M.D.*, A.M.

1854.

Frederick Arthur, Jr.  
John W. Cadbury.  
John B. Garrett.  
David Scull, Jr.

1855.

\*Samuel Bettie, \*1859.  
John R. Hubbard, A.M.

1856.

Bartholomew W. Beesley.  
Joel Cadbury, Jr.  
Jonathan J. Comfort, *M.D.*  
\*James M. Walton, \*1874.  
Edward R. Wood, A.M.

1857.

Jesse S. Cheyney, A.M.  
\*Cyrus Mendenhall, \*1858.  
Stephen Wood.

1858.

Thomas H. Burgess.  
Thomas Clark.  
Daniel W. Hunt.  
\*Samuel T. Satterthwaite, \*1865.  
William G. Tyler.  
Thomas Wistar, A.M., *M.D.*  
Ellis H. Yarnall, *L.L.B.*

1859.

\*Richard W. Chase, \*1862.  
James R. Magee.  
\*Richard C. Paxson, \*1864.  
\*Edward Rhoads, *M.D.*, \*1871.  
Edward C. Sampson.  
\*George Sampson, \*1872.  
Abram Sharples, *M.D.*  
Benjamin H. Smith.

1860.

\*Lindley M. Clark, \*1861.  
\*William B. Corbit, *M.D.*, \*1882.  
\*William M. Corlies, \*1881.  
Cyrus Lindley.  
Theodore H. Morris.  
Frederick W. Morris.

Richard Pancoast.  
John W. Pinkham, *M.D.*  
Francis Richardson.  
Clement L. Smith, A.M.  
James Tyson, *M.D.*, A.M.  
Silas A. Underhill, *L.L.B.*

1861.

Edward Bettie.  
Henry Bettie.  
Charles Bettie.  
William B. Broomall.  
Charles H. Jones.  
\*Thomas W. Lamb, A.M., *M.D.*,  
\*1878.

William N. Potts.  
Jehu H. Stuart, A.M., *M.D.*  
John C. Thomas.

1862.

Henry T. Coates, A.M.  
\*Samuel A. Hadley, \*1864.  
Horace G. Lippincott.  
George B. Mellor.  
Horace Williams, *M.D.*  
Isaac F. Wood.

1863.

Thomas J. Battey.  
George M. Coates, Jr., A.M.  
William M. Coates.  
\*Richard T. Jones, \*1869.  
William H. Morris.  
Joseph G. Pinkham, *M.D.*, A.M.

1864.

\*Franklin Angell, A.M., \*1882.  
William Ashbridge, *M.D.*  
Edward H. Coates.  
Howard M. Cooper, A.M.  
Albin Garrett.  
Morris Longstreth, *M.D.*, A.M.  
Albert Pancoast.  
Charles Roberts.  
E. Pope Sampson.  
Edward L. Scull.  
\*Randolph Wood, \*1876.

1865.

John R. Bringhurst.  
Edward T. Brown.  
James A. Chase.  
Joseph M. Downing.

Arthur Haviland.  
 \*David H. Nichols, \*1865.  
 Henry W. Sharpless.  
 \*George Smith, Jr., \*1872.  
 Robert B. Taber, A.M.  
 Allen C. Thomas, A.M.  
 Benjamin A. Vail.  
 Caleb Cresson Wistar.

1866.

A. Marshall Elliott, A.M.  
 Benjamin E. Valentine, *LL.B.*

1867.

\*John Ashbridge, \*1881.  
 George Ashbridge, A.M., *LL.B.*  
 William P. Clark, A.M., *LL.B.*  
 Samuel C. Collins, A.M..  
 Nathaniel B. Crenshaw.  
 Charles H. Darlington, A.M.  
 \*Wm. T. Dorsey, *M.D.*, \*1870.  
 B. Franklin Eshleman.  
 Richard M. Jones, A.M.  
 Charles W. Sharpless.  
 Walter Wood.

1868.

Edward H. Cook.  
 \*Alexis T. Cope, \*1883.  
 Benjamin C. Satterthwaite.  
 Louis Starr, *M.D.*  
 S. Finley Tomlinson.  
 Joseph H. Wills, A.M., *M.D.*

1869.

Johns H. Congdon.  
 Henry Cope, A.M.  
 Ludovic Estes, *A.M.*  
 \*Henry Evaul, A.M., \*1877.  
 \*William B. Kaighn, \*1876.  
 Pendleton King, A.M.  
 William H. Randolph.  
 Edward B. Taylor, *M.C.E.*  
 William S. Taylor.  
 James G. Whitlock.  
 Walter Wood.  
 Henry Wood, *Ph.D.*

1870.

J. Stuart Brown.  
 John E. Carey.  
 Alford G. Coale.

Howard Comfort.  
 T. Allen Hilles.  
 William H. Hubbard, *M.D.*  
 \*Thos. K. Longstreth, A.M., \*1883.  
 Oliver G. Owen, A.M.  
 Charles E. Pratt, A.M.  
 David F. Rose.  
 John D. Steele.  
 Charles Wood, A.M.  
 Stuart Wood, *Ph.D.*

1871.

Henry G. Brown.  
 William P. Evans.  
 John S. Garrigues.  
 Reuben Haines, A.M.  
 William H. Haines.  
 Joseph Hartsborne.  
 Jesse F. Hoskins.  
 Walter T. Moore.  
 Ellis B. Reeves.  
 Alfred R. Roberts, *C.E.*  
 Charles S. Taylor.  
 Edward D. Thurston.  
 Randolph Winslow, *M.D.*, A.M.

1872.

Richard Ashbridge, *M.D.*  
 Richard T. Cadbury, *A.M.*  
 James Carey, Jr., *LL.B.*  
 Thomas S. Downing, Jr.  
 Walter Erben.  
 Thomas Rowland Estes.  
 John E. Forsythe.  
 William H. Gibbons, A.M.  
 Francis B. Gummere, A.M., *Ph.D.*  
 Casper Wistar Haines, *C.E.*  
 Abram Francis Huston.  
 \*Marmaduke Cope Kimber, A.M.,  
 \*1878.

William M. Longstreth.  
 Richard H. Thomas, *M.D.*

1873.

James C. Comfort.  
 Thomas P. Cope, Jr.  
 George W. Emlen.  
 Joseph M. Fox.  
 Henry C. Haines.  
 Benjamin H. Lowry, A.M.  
 Alden Sampson, A.M.  
 Julius L. Tomlinson.

1874.

Edward P. Allinson, A.M.  
 John G. Bullock.  
 James Emlen.  
 Charles R. Hartshorne, *LL.B.*  
 Samuel E. Hilles.  
 John B. Jones.  
 Mahlon Kirkbride.  
 Theophilus P. Price.  
 James B. Thompson.  
 Joseph Trotter.

1875.

Edward K. Bispham.  
 Alonzo Brown, A.M.  
 J. Franklin Davis, A.M.  
 Charles E. Haines.  
 William Hunt, Jr.  
 Charles L. Huston.  
 Harold P. Newlin.  
 Walter W. Pharo.  
 Charles E. Tebbetts.  
 Miles White, Jr.

1876.

Francis G. Allinson, A.M., *Ph.D.*  
 David S. Bispham.  
 Reuben Colton.  
 Henry W. Dudley.  
 Seth K. Gifford, A.M.  
 L. Lyndon Hobbs, A.M.  
 Richard H. Holme.  
 Thomas Wm. Kimber.  
 Charles A. Longstreth.  
 J. Whitall Nicholson.  
 Percival Roberts, Jr.  
 Frank H. Taylor.  
 Howard G. Taylor.  
 \*Lewis A. Taylor, \*1881.

1877.

A.B.

Isaac W. Anderson.  
 Frederic L. Baily.  
 Isaac Forsythe.  
 James D. Krider.  
 George G. Mercer, *D.C.L.*  
 Wilson Townsend.

S.B.

William F. Smith.

1878.

A.B.

Henry Baily, *A.M.*  
 Albert L. Baily.  
 Francis K. Carey, *LL.B.*, A.M.  
 Edward T. Comfort.  
 Charles S. Crosman.  
 Samuel H. Hill.  
 Lindley M. H. Reynolds.  
 Daniel Smiley, Jr.  
 Henry L. Taylor, *M.D.*  
 John M. W. Thomas.  
 George W. White.

S.B.

Jonathan Eldridge.  
 Edward Forsythe.  
 Cyrus P. Frazier, *A.B.*  
 Robert B. Haines, Jr.  
 Henry N. Stokes.

1879.

A.B.

Samuel Bispham, Jr.  
 Edward Gibbons.  
 John H. Gifford.  
 Francis Henderson, *LL.B.*  
 William C. Lowry.  
 John B. Newkirk.  
 John E. Sheppard, Jr., *M.D.*

1880.

A.B.

Charles F. Brede.  
 Charles E. Cox.  
 Josiah P. Edwards.  
 James L. Lynch.  
 Samuel Mason, Jr.  
 William F. Perry.  
 Joseph Rhoads, Jr., A.M.

S.B.

William Bishop.  
 Alexander P. Corbit.  
 Charles E. Gause, Jr.  
 Edward M. Jones

1881.

A.B.

William A. Blair.  
 A. Morris Carey.

Levi T. Edwards.  
 Edward Y. Hartshorne.  
 Isaac T. Johnson.  
 Edwin O. Kennard.  
 Jesse H. Moore.  
 William E. Page.  
 Walter F. Price, A.M.  
 Thomas N. Winslow.  
 John C. Winston.

S.B.

Walter Brinton.  
 William H. Collins.  
 Joseph H. Cook.  
 Davis H. Forsythe.  
 Albanus L. Smith.

1882.

A.B.

George A. Barton.  
 Isaac M. Cox.  
 Richard B. Hazard.  
 Wilmot R. Jones.  
 Wilmer P. Leeds.  
 J. Henley Morgan.  
 Edward Randolph.

S.B.

John E. Coffin.  
 Daniel Corbit.  
 George L. Crosman.  
 Frederic D. Jones.  
 T. Chalkley Palmer.  
 Lindley M. Winston.

1883.

A.B.

John Blanchard.  
 Frank E. Briggs.  
 George H. Evans.  
 Francis B. Stuart.  
 Bond V. Thomas.  
 Thomas K. Worthington.

S.B.

William L. Baily.  
 Stephen W. Collins.  
 D. William Edwards.  
 Samuel B. Shoemaker.  
 John D. Spruance.  
 W. Alpheus White.  
 Charles H. Whitney.  
 Louis B. Whitney.

Whole number of graduates, 357.

### HONORARY DEGREES.

1858.

Hugh D. Vail, A.M.

1859.

\*Joseph W. Aldrich, A.M., \*1865.

1860.

John G. Whittier, A.M.

1864.

Edward D. Cope, A.M.

1867.

Joseph Moore, A.M.

1872.

William Jacobs, A.M.

1875.

Samuel Alsop, Jr., A.M.

1876.

Pliny E. Chase, LL.D.

1877.

John J. Thomas, A.M.

1879.

Ellis Yarnall, A.M.

1880.

Thomas Chase, LL.D.  
 Thomas Hughes, LL.D.

1883.

James Wood, A.M.  
 Henry N. Hoxie, A.M.





CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR

1884—85.

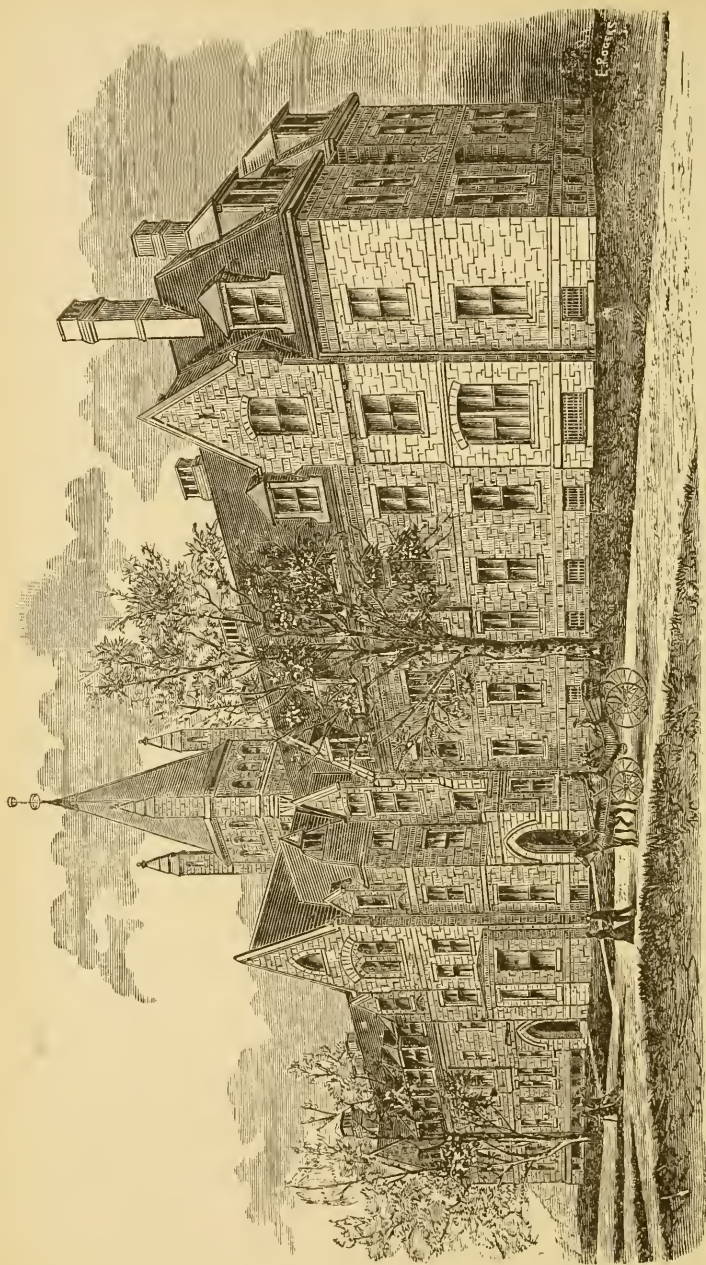


PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1884.





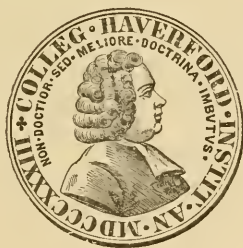




BARCLAY HALL.

CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR

1884—85.



PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1884.

# CORPORATION.

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*Secretary,*

CHARLES ROBERTS,

410 Race St., Philadelphia.

*Treasurer,*

ASA S. WING,

409 Chestnut St., Philadelphia.

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T. WISTAR BROWN,  
JAMES WHITALL,  
JAMES CAREY THOMAS,  
PHILIP C. GARRETT,  
JAMES E. RHOADS,  
RICHARD CADBURY,  
DAVID SCULL, JR.,  
RICHARD WOOD,  
ROBERT B. HAINES,  
FRANCIS T. KING,  
WILLIAM R. THURSTON,  
GEORGE HOWLAND, JR.,

CHARLES HARTSHORNE,  
JOHN B. GARRETT,  
EDWARD BETTLE, JR.,  
CHARLES ROBERTS,  
FRANCIS WHITE,  
BENJAMIN H. SHOEMAKER,  
HOWARD COMFORT,  
WILLIAM S. TAYLOR,  
WILLIAM PENN EVANS,  
HENRY BETTLE,  
JUSTUS C. STRAWBRIDGE,  
ASA S. WING,  
ELLISTON P. MORRIS.

*Secretary of the Board,*

HOWARD COMFORT,

529 Arch St., Philadelphia.

---

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JAMES WHITALL,  
DAVID SCULL, JR.,  
EDWARD BETTLE, JR.,  
RICHARD CADBURY,  
PHILIP C. GARRETT,

CHARLES ROBERTS,  
JOHN B. GARRETT,  
JUSTUS C. STRAWBRIDGE,  
HOWARD COMFORT,  
ASA S. WING.

---

FACULTY.

---

THOMAS CHASE, LLT.D., LL.D., PRESIDENT,  
AND PROFESSOR OF PHILOLOGY AND LITERATURE.

PLINY EARLE CHASE, LL.D.,  
PROFESSOR OF PHILOSOPHY AND LOGIC.

ISAAC SHARPLESS, SC.D., DEAN,  
AND PROFESSOR OF MATHEMATICS AND ASTRONOMY.

ALLEN CLAPP THOMAS, A.M., LIBRARIAN,  
PROFESSOR OF HISTORY, POLITICAL SCIENCE, AND RHETORIC.

LYMAN BEECHER HALL, PH.D.,  
JOHN FARNUM PROFESSOR OF CHEMISTRY AND PHYSICS.

EDWIN DAVENPORT, A.M.,  
PROFESSOR OF GREEK AND LATIN.

HENRY CARVILL LEWIS, A.M.,  
PROFESSOR OF GEOLOGY.

THOMAS NEWLIN,  
PROFESSOR OF BIOLOGY, CURATOR OF THE MUSEUM, AND IN CHARGE OF  
THE DISCIPLINE.

JAMES BEATTY, JR., M. E.,  
PROFESSOR OF ENGINEERING.

---

WALTER A. FORD, M.D.,  
INSTRUCTOR IN PHYSICAL TRAINING AND DIRECTOR OF THE GYMNASIUM.

WILLIAM EARL MORGAN, A.M.,  
ASSISTANT IN THE ASTRONOMICAL OBSERVATORY, AND INSTRUCTOR IN  
DRAWING.

WILLIAM FREDERICK WICKERSHAM,  
ASSISTANT LIBRARIAN.

## GRADUATE STUDENTS.

MORRIS R. CONABLE, B.C.E.,

WILLIAM EARL MORGAN, A.M.

---

SENIOR CLASS.

---

*CLASSICAL SECTION.*

BETTLE, SAMUEL, . . . . .	Camden, N. J.
DOAN, ENOS L., . . . . .	Valley Mills, Ind.
FERRIS, WILLIAM TABER, . . . .	Poughkeepsie, N. Y.
HILLES, WILLIAM SAMUEL, . . . .	Wilmington, Del.
HUSSEY, WILLIAM TIMOTHY, . . . .	North Berwick, Me.
JONES, ARTHUR WINSLOW, . . . .	South China, Me.
JONES, RUFUS MATTHEW, . . . .	South China, Me.
MARKLEY, JOSEPH LYBRAND, . . . .	East Nantmeal, Pa.
MORRIS, MARRIOTT CANBY, . . . .	Germantown, Pa.
MURRAY, AUGUSTUS TABER, . . . .	New Bedford, Mass.
REEVE, AUGUSTUS HENRY, . . . .	Camden, N. J.
REEVE, WILLIAM FOSTER, . . . .	Camden, N. J.
SUTTON, ISSAC, . . . . .	Bush Hill, N. C.
WHITE, ELIAS HENLEY, . . . . .	Raysville, Ind.
WICKERSHAM, WM. FREDERICK, . . .	Kennett Square, Pa.

*SCIENTIFIC SECTION.*

BAILY, CHARLES WINTER, . . . .	Philadelphia, Pa.
BLAIR, JOHN JAY, . . . . .	High Point, N. C.
RICHARDS, THEODORE WILLIAM, . .	Pomeroy, Pa.
WILSON, MATTHEW TERRELL, . . .	Spiceland, Ind.

## JUNIOR CLASS.

---

### *CLASSICAL SECTION.*

DICKINSON, JONATHAN, JR., . . .	Poughkeepsie, N. Y.
SCOTT, ALEXANDER HARVEY, . . .	Philadelphia, Pa.
SMITH, HORACE EUGENE, . . .	Philadelphia, Pa.
WADSWORTH, EDWARD DORLAND, .	Hallowell, Maine.

### *SCIENTIFIC SECTION.*

BETTS, THOMAS WADE, . . . .	Wilmington, Ohio.
JOHNSON, GUY ROCHE, . . . .	Longdale, Va.
McFARLAND, WILLIAM STUART, .	Mt. Laurel, N. J.
MORRIS, ISRAEL, JR., . . . .	Philadelphia, Pa.
MORRIS, WILLIAM PAUL, . . . .	Philadelphia, Pa.
UNDERHILL, ALFRED MOTT, JR., .	Poughkeepsie, N. Y.
WHITE, WILFRED WALTON, . . .	Raysville, Ind.



## SOPHOMORE CLASS.

### CLASSICAL SECTION.

ADAMS, JAY HOWE, . . . . .	Philadelphia, Pa.
CASSATT, EDWARD BUCHANAN, . . .	Haverford Coll., Pa.
FUTRELL, WILLIAM HARRISON, . . .	Rich Square, N. C.
GARRETT, ALFRED COPE, . . . . .	Germantown, Pa.
HERENDEEN, FRANCIS ALBERT, . . .	Geneva, N. Y.
HUSSEY, ARTHUR M., . . . . .	North Berwick, Me.
MARTIN, L. LANPHIER, . . . . .	West Chester, Pa.
NEWHALL, BARKER, . . . . .	Lynn, Mass.
PHILIPS, JESSE EVANS, JR., . . . .	E. Nantmeal, Pa.
STOKES, HENRY WARRINGTON, . . .	Germantown, Pa.
STRAWBRIDGE, FREDERIC HEAP, . . .	Germantown, Pa.
WHITE, RICHARD JANNEY, . . . . .	Baltimore, Md.
WOOD, GEORGE BACON, . . . . .	Philadelphia, Pa.
WOOD, WILLIAM CONGDON, . . . . .	New York, N. Y.
WILSON, CALVERT, . . . . .	Washington, D. C.
YARNALL, HAROLD ELLIS, . . . . .	Haverford Coll., Pa.

### SCIENTIFIC SECTION.

BACON, JOHN, . . . . .	Greenwich, N. J.
BARR, ERNEST KIRBY, . . . . .	Philadelphia, Pa.
BEDELL, CHARLES HAMPTON, . . . .	Poughkeepsie, N. Y.
CHASE, ALFRED, . . . . .	Haverford Coll., Pa.
LESLEY, HUGH, . . . . .	Philadelphia, Pa.
LEWIS, EDMUND COLEMAN, . . . . .	Philadelphia, Pa.
TROTTER, FREDERICK NEWBOLD, . . .	Philadelphia, Pa.

### ENGINEERING SECTION.

EVANS, HORACE YOUNG, JR., . . . .	Philadelphia, Pa.
HACKER, WILLIAM ESTES, . . . . .	Germantown, Pa.
JANNEY, JOHN HALL, . . . . .	Brighton, Md.
MORRIS, P. HOLLINGSWORTH, . . . .	Philadelphia, Pa.
TRIMBLE, WILLIAM WEBSTER, . . . .	Harrisville, Ohio.

COPE, ALBAN, . . . . .	Germantown, Pa.
HAZARD, WILLIS HATFIELD, . . . .	West Chester, Pa.
WRIGHT, WILLIAM TOWNSEND, . . . .	Philadelphia, Pa.

## FRESHMAN CLASS.

### *CLASSICAL SECTION.*

BROOKS, EDWARD, JR.,	. . . .	Philadelphia, Pa.
ORBISON, THOMAS, J.	. . . .	Bellefonte, Pa.
NIELDS, PERCY,	. . . .	Wilmington, Del.
PATTERSON, GEORGE STUART,	. .	Chestnut Hill, Pa.
STUBBS, MARTIN BELL,	. . . .	Philadelphia, Pa.
WOOD, CHARLES RANDOLPH,	. .	Philadelphia, Pa.

### *SCIENTIFIC SECTION.*

BOWNE, HOWLAND,	. . . .	New York, N. Y.
CORBIT, JOHN COWGILL, JR.,	. .	Odessa, Del.
DAWSON, CHARLES WILMOT,	. . .	Lowell, Mass.
ENGLAND, HOWELL STROUD,	. .	Wilmington, Del.
HARTSHORNE, FRANCIS COPE,	. .	Overbrook, Pa.
HILLES, JOSEPH TATUM,	. . . .	Wilmington, Del.
JOHNSON, JOSEPH HENRY,	. . . .	Ardmore, Pa.
ROBERTS, GEORGE BRINTON,	. .	Bala, Pa.
SHARP, JOSEPH WEBSTER, JR.,	. .	Berwyn, Pa.
WRIGHT, ROBERT C.,	. . . .	Dennisville, N. J.

### *ENGINEERING SECTION.*

BEIDELMAN, LAWRENCE PETERSON,	Little Rock, Ark.
HOWELL, HERBERT CHARLES,	. . Philadelphia, Pa.

---

BINNS, EDWARD HUSSEY,	. . . .	Pittsburgh, Pa.
BINNS, RALPH HOLDEN,	. . . .	Pittsburgh, Pa.
VEEDER, HERMAN GREIG,	. . . .	Allegheny, Pa.

## SUMMARY.

Seniors, . . . . .	19
Juniors, . . . . .	11
Sophomores and Special Students,	31
Freshmen and Special Students, .	21
	—
Total of Undergraduates, .	82
Graduate Students, . . . .	2
	—
Total, . . . . .	84

## CALENDAR.

College Year,* 1884-85, began with the be-		
ginning of the Autumn Term, 1884,	9th Mo.	17.
Winter Recess begins	12th Mo.	23.
Winter Term begins, 1885,*	1st Mo.	5.
Mid-year Examinations begin	1st Mo.	23.
Second Half-year begins	2d Mo.	2.
Oration before the Loganian Society,	4th Mo.	16.
Junior Exercises, 6th Day,	4th Mo.	17.
Spring Recess begins	4th Mo.	17.
Spring Term begins*	4th Mo.	27.
Public Oration for the Alumni Prize,	5th Mo.	28.
Public Meeting of the Loganian Society,	6th Mo.	22.
Address to the Graduating Class,	6th Mo.	23.
Commencement Day, 1885,	6th Mo.	23.
Examinations for Admission, 2 P.M.,	6th Mo.	23.

## VACATION OF TWELVE WEEKS.

Examinations for Admission, 9 A.M.,†	9th Mo.	15.
College Year, 1885-86, begins*	9th Mo.	16.
Alumni Meeting,	10th Mo.	3.
Alumni Oration,	10th Mo.	3.
Winter Recess begins	12th Mo.	24.
Winter Term begins, 1886, 2 P.M.,	1st Mo.	4.
Second Half-year begins	2d Mo.	1.
Spring Recess begins	4th Mo.	16.
Commencement Day, 1886,	6th Mo.	22.
College Year, 1886-87, begins*	9th Mo.	15.

\* The first recitations are due promptly at *half-past nine o'clock*, at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

† See also page 15.

## REQUISITES AND TERMS OF ADMISSION.

---

CANDIDATES for admission to the Freshman Class in the COURSE IN ARTS AND SCIENCE will be examined as to their proficiency in the following requisites:

CLASSICS.—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in *Latin and Greek Grammar*, to be tested, in part, by *writing* sentences in Latin and Greek; acquaintance with Prosody, to be proven by *scanning verses* from Virgil; and, in general, a sufficient knowledge of both languages to enable one to pursue, with facility and advantage, the studies of the Freshman year. Candidates will be examined in Cæsar, Cicero, Virgil, and Xenophon or the Greek Reader; or equivalents. Teachers are advised to exercise their pupils from the very first in *writing* both Greek and Latin.

MATHEMATICS.—*Arithmetic*, including the *Metric System*; *Algebra*, to Quadratic Equations of two unknown quantities; *Geometry*, the first three books.

ENGLISH.—*Spelling*, *Grammar*, *English Composition*, *Political Geography*, *Physical Geography*, the elements of *Greek and Roman History* (the Primers of Greek and Roman History will indicate the amount required), and the *History of the United States*. The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics. Acquaintance with the elements of the *History of England* will be found advantageous.

DRAWING.—Practice in Free-Hand Drawing, from childhood up, is earnestly recommended as an important part of the preparation for advanced studies.

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Course in Arts, except in the Greek language, and will also be examined in the elements of *Physics* and of *Human Physiology*.

For the Freshman Class of the ENGINEERING COURSE the same preparation will be required as for the Freshman Class of the Scientific Course, except that Whitney's *German Grammar and Reader* may be presented instead of Latin.

Satisfactory examination-papers, written under proper supervision at first-class schools, and forwarded or reported to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions.

Students not candidates for a degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and also on subsequent examination thoroughly fitted in all the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that "the College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismissal in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to the Dean. Entry Blanks will be furnished on application. Candidates will present themselves at Founders' Hall, for examination by the Faculty, *at 2 o'clock on Commencement day, or at 9 o'clock on the morning previous to the beginning of the College year.*

The price of Board and Tuition (together with fuel, lights, and all necessary furniture and service), is \$500.00 per annum, payable to the Dean, one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students who dine at the College, the annual charge is \$250.00, and for tuition alone \$150.00.

There is a telegraph office and an Adams Express office at the College Station, and there is a U. S. Money-order office at Bryn Mawr, Montgomery Co., Pa., one mile from the College.

For further information, and for circulars and catalogues, address Professor ISAAC SHARPLESS, Dean, Haverford College P.O., Montgomery Co., Pa.

## COURSES OF INSTRUCTION.

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### COURSE IN ARTS AND SCIENCE,

---

#### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
2. *Mathematics*. Sharpless's Geometry; Wells's University Algebra. Four hours a week.
3. *Greek*. Xenophon's Hellenica, or an equivalent; Herodotus; Homer; Review of Greek Grammar; Translations at sight.
4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.
5. *Latin*. Livy (Chase); The Odes of Horace, Books I, II, and III (Chase); Review of Latin Grammar; Translations at sight.
6. *Latin Prose Composition*. Bennett. Subjects 5 and 6, four hours a week.
7. *Rhetoric and Composition*. Principles of Rhetoric (A. S. Hill); Composition. One hour a week.
8. *History*. History of Greece; History of Rome; Greek and Roman Antiquities; Chronology.
9. *Zoology. Hygiene. Meteorology. Physiography. Botany*. Subjects 8 and 9, three hours a week.
10. *Drawing*. Free-Hand Drawing from Objects. One hour a week.

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#### SOPHOMORE CLASS.

1. *Scripture*. The New Testament, English and Greek (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.



2. *Mathematics.* Gummere's Trigonometry and Surveying, with Field Practice; Wentworth's Plane and Spherical Trigonometry; Advanced Algebra. Three hours a week.

3. *Greek.* The Iliad and Odyssey of Homer; Plato's Apology and Crito, or Phaedo; The Prometheus of Æschylus; Translations at sight.

4. *Greek Prose Composition.* Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin.* Horace, Book IV of the Odes; Epodes, Satires, and Epistles; The Germania and Agricola of Tacitus; Selections from Lyric Poets; Translations at sight.

6. *Latin Prose Composition.* Abbott. Subjects 5 and 6, three hours a week the first half year, two hours the second.

7. *Ethics and Christian Evidences.* Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

8. *English Literature.* Lounsbury's History of the English Language; Lives and Works of English Authors. One hour a week the first half year.

9. *Rhetoric.* Whately's Rhetoric, Part III.

10. *Political Science.* Cooley's Principles of Constitutional Law; Constitution of the United States. Subjects 9 and 10, two hours a week the second half year.

11. *Physics.* Natural Philosophy. Three hours a week the first half year.

12. *Chemistry.* Eliot and Storer's Chemistry. Three hours a week the second half year.

13. *Drawing.* Free-Hand Drawing from Objects. One hour a week.

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## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture.* Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

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2. *Mathematics*. Peck's Analytical Geometry. Three hours a week the first half year.

3. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

4. *Greek*. Thucydides; The Antigone of Sophocles; The Medea of Euripides; Exercises in writing Greek. Two hours a week. (Students who desire it, may take Calculus in the second half year in the place of Greek, without losing the right to take Greek in the Senior year.)

5. *Latin*. Cicero's Tusculan Disputations and Somnium Scipionis (Chase); Pliny's Letters; Virgil's Bucolics and Georgics, or an equivalent; Exercises in writing Latin. Two hours a week.

6. *German*. Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts; Translations at sight. Two hours a week.

7. *Geology*. Dana's Text-Book, and field work. Two hours a week the first half year.

8. *Rhetoric*. Whately's Rhetoric; Themes.

9. *Political Science*. History of American Politics; Forensics. Subjects 8 and 9, two hours a week the first half year, one hour a week the second.

10. *History*. Keary's Dawn of History.

11. *Logic*. Whately and Hamilton; or Jevons.

12. *Psychology*. Haven's Mental Philosophy (begun). Subjects 11 and 12, three hours a week the second half year.

13. *Elocution*. Rehearsals for Public Exercises.

14. *Drawing*. (For students who have not attained a sufficient proficiency, or as a voluntary study for others.) One hour a week.

#### ELECTIVE STUDIES.

(Two hours a week to be selected.)

1. *Descriptive Geometry, Shades and Shadows, and Perspective*. Two hours a week the first half year.

2. *Chemistry*. Qualitative Analysis; Laboratory Practice. Twice a week the first half year, counting as two hours of recitation.

3. *Mathematics*. Peck's Differential and Integral Calculus. Two hours a week the second half year.

4. *French*. Knapp's or Otto's Grammar; Voyage autour de ma Chambre; Fénelon's Télémaque; Histoire de Charles XII; Exercises. Three hours a week the second half year, counting as two hours. (Students sufficiently advanced may recite in French with the Senior Class.)

5. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.

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## SENIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament continued. One hour a week.

2. *Latin and Classical Literature*. The Captives of Plautus, and Extemporalia; Selections from Juvenal; Cicero's Letters; Latin Poetry; The Ancient Pronunciation of Latin; Latin Composition; History of the Literatures of Greece and Rome. Two hours a week.

3. *French*. Grammar, Translation, and Exercises. (Required in lieu of one of the elective studies, of those members of the Senior Class who have not previously studied French.) Three hours a week the second half year, counting as two hours.

4. *Anglo-Saxon*. One hour a week the second half year.

5. *Political Science*. Political Economy; International Law (Lectures). One hour a week the first half year.

6. *Psychology*. Haven continued; Mental Physiology (Carpenter); Lectures. Two hours a week the first half year.

7. *Natural and Revealed Religion*. Butler's Analogy. Two hours a week the first half year.

8. *Christian Doctrines*. Barclay or Gurney. One hour a week the second half year.

9. *English*. Philological Study; Milton's *Areopagitica*; Chaucer; Themes. One hour a week the second half year.

10. *History*. Hallam's *Constitutional History of England*; Guizot's *History of Modern Civilization*; Adams's *Mediæval Civilization*; Seebohm's *Protestant Revolution*. Two hours a week.

11. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.

12. *Elocution and Composition*. A Public Oration at Commencement.

#### ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Analytical Mechanics*. Two hours a week through the year.

2. *Astronomy, etc.* Loomis's *Practical Astronomy*, with special practice in the Observatory. Two hours a week through the year. (Courses 1 and 2 are open only to those who have studied Calculus in the Junior year.)

3. *Civil and Sanitary Engineering*. Mahan; Henck; Waring; Field Practice. Two hours a week.

4. *Physics*. Acoustics; Optics; Electricity; Magnetism. Two hours a week.

5. *Chemistry*. Analysis and other Experimental Practice. Twice a week.

6. *Classical Philology, and Greek*. *Æschines* and *Demosthenes* on the Crown, or an equivalent, and *Extemporalia*; Greek Pastoral and Lyric Poets; Greek Composition; Papillon's *Greek and Latin Inflections*; Peile's *Greek and Latin Etymology*, with *Curtius*, *Vaniček*, and *Corssen* for reference; *Curtius's* and *Roby's Grammars* for reference; *Inscriptions*. Two hours a week.

7. *Psychology*. Berkeley; Bowne. Two hours a week the second half year.

8. *History*. English History; History of Modern Europe; History of United States.

9. *Ecclesiastical History*. Smith; Stanley; Lea; Hardwick.

10. *German*. Zschokke's *Der Zerbrochene Krug*; *Das Wirthshaus zu Cransac*; Fouqu  's *Undine*, or an equivalent in prose; Schiller's *Wilhelm Tell*; Review of the Grammar; Oral and Written Exercises. Two hours a week.

11. *French*. Taine's *Essays*; Racine's *Athalie*; Moli  re or Corneille; Grammar; Oral and Written Exercises. Three hours a week, counting as two hours. (Advanced German or French may be dropped in the second half year by students who wish to take Calculus or Psychology in place of either of them.)

12. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.

13. *Peck's Differential and Integral Calculus*. Two hours a week the second half year.

14. *Philology*; Whitney; Peile.

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## SCIENTIFIC COURSE.

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### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.

2. *Mathematics*. Sharpless's *Geometry*; Wells's *University Algebra*. Four hours a week.

3. *Latin*. Livy (Chase); Horace (Chase); Review of Latin Grammar; Translations at sight.

4. *Latin Prose Composition* (Bennett). Subjects 3 and 4, four hours a week.

5. *Rhetoric and Composition*. Principles of Rhetoric (A. S. Hill); Composition. One hour a week.

6. *Physics*. Natural Philosophy. Three hours a week the first half year.

7. *Chemistry*. Eliot and Storer. Three hours a week the second half year.

8. *History*. History of Greece; History of Rome; Greek and Roman Antiquities; Chronology.

9. *Zoology, Hygiene, Meteorology, Physiography, Botany*. Subjects 8 and 9, three hours a week.

10. *Drawing*. Free Hand Drawing from Objects. One hour a week.

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#### SOPHOMORE CLASS.

1. *Scripture*. The New Testament. One hour a week.

2. *Mathematics*. Gunmere's Trigonometry and Surveying, with Field Practice; Wentworth's Plane and Spherical Trigonometry; Advanced Algebra. Three hours a week.

3. *French*. Knapp's or Otto's Grammar; Voyage autour de ma Chambre; Fénelon's *Télémaque*; Histoire de Charles XII; Exercises. Three hours a week the second half year.

4. *German*. Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts; Translations at sight. Two hours a week.

5. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

6. *English Literature*. Lounsbury's History of the English Language; Lives and Works of English Authors. One hour a week the first half year.

7. *Rhetoric*. Whately's Rhetoric, Part III.

8. *Political Science*. Cooley's Principles of Constitutional Law; Constitution of the United States. Subjects 7 and 8, two hours a week the second half year.

9. *Chemistry*. Qualitative Analysis; Laboratory Practice. Twice a week the first half year, counting as two hours of recitation.

10. *Chemical Philosophy; Chemistry of Carbon Compounds*. Two hours a week the second half year.

11. *Physics*. Deschanel; Heat. Two hours a week the first half year.

In alternate years, subjects 10 and 11 will be studied in the Junior year in place of course 12 of that year.

12. *Natural History*. Advanced Zoology and Biology (or an equivalent). Two hours a week the first half year.

13. *Drawing*. Mechanical Drawing from Objects, Geometrical Solids, etc.; Isometric and Perspective Drawing. Three hours a week, counting as one hour.

\* \* Latin, Advanced French, or Elementary Greek, may be taken in the place of Natural History.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible; or, the Greek Testament (for students having a sufficient knowledge of Greek). One hour a week.

2. *Mathematics*. Peck's Analytical Geometry; Peck's Differential and Integral Calculus. Three hours a week the first half year and two the second.

3. *Mathematics*. Descriptive Geometry; Isometric Projection, Shades and Shadows, and Perspective. Two hours a week for the first half year.

4. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Three hours a week the second half year.

5. *German*. Zschokke's *Der Zerbrochene Krug*; *Das Wirthshaus zu Cransac*; Fouqu  's *Undine*, or an equivalent of prose; Schiller's *Wilhelm Tell*; Review of the Grammar; Oral and Written Exercises. Two hours a week.

6. *Geology*. Dana's Text-Book, and field work. Two hours a week the first half year.

7. *Rhetoric*. Whately's *Rhetoric*; Themes.

8. *Political Science*. History of American Politics; Forensics. Subjects 7 and 8, two hours a week the first half year, one hour the second.

9. *History*. Keary's *Dawn of History*.

10. *Logic*. Whately and Hamilton ; or, Jevons.

11. *Psychology*. Haven's Mental Philosophy (begun).  
Subjects 10 and 11, three hours a week the second half year.

12. *Physics*. Acoustics ; Optics ; Electricity ; Magnetism. Two hours a week.

In alternate years this subject will be studied in the Sophomore year in place of courses 10 and 11 of that year.

13. *Elocution*. Rehearsals for Public Exercises.

#### ELECTIVE STUDIES.

(One subject to be selected.)

1. *Chemistry*. Qualitative and Quantitative Analysis.  
Twice a week, counting as two hours of recitation.

2. *Mineralogy*. Practical Exercises in Crystallography and Determination of Minerals ; Dana's Text-Book. Two hours a week the second half year. (Elective subjects 3, 4, or 5, may be dropped in order to take this course.)

3. *French*. Taine's *Essais* ; Racine's *Athalie* ; Molière or Corneille ; Grammar ; Oral and Written Exercises. Three hours a week, counting as two hours (either or both half years).

4. *Elementary Greek*. Grammar and Xenophon ; Greek Testament ; Scientific Nomenclature ; Homer. Two hours a week.

5. *Latin*. Cicero's *Tusculan Disputations* ; Pliny ; Latin Poetry. Two hours a week (either or both half years).

#### SENIOR CLASS.

##### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible, or Greek Testament. One hour a week.

2. *Analytical Mechanics*. Two hours a week.

3. *French*. (Same as the elective French in the Junior year.) Three hours a week, counting as two hours. Required in lieu of an elective study of those who have not already studied French a year and a half.



4. *Anglo-Saxon*. One hour a week the second half year.
5. *Political Science*. Political Economy; International Law (Lectures). One hour a week the first half year.
6. *Psychology*. Haven (continued); Mental Physiology (Carpenter); Lectures. Two hours a week the first half year.
7. *Natural and Revealed Religion*. Butler's Analogy. Two hours a week the first half year.
8. *Christian Doctrines*. Barclay or Gurney. One hour a week the second year.
9. *English*. Philological Study; Milton's Areopagitica; Chaucer; Themes. One hour a week the second half year.
10. *History*. Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Adams's Mediæval Civilization; Seebohm's Protestant Revolution. Two hours a week.
11. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half year.
12. *Composition and Elocution*. A Public Oration at Commencement.

## ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Astronomy*. Loomis's Practical Astronomy, with special practice in the observatory. Two hours a week through the year.
2. *Experimental Physics*. Physical Measurements. Twice a week. (Open only to such students as have shown a marked proficiency.)
3. *Chemistry*. Analysis, and other experimental practice. Twice a week.
4. *Civil and Sanitary Engineering*. Mahan, Henck, Waring; Field Practice. Two hours a week.
5. *Psychology*. Berkeley; Bowne; Lectures. Two hours a week the second half year. (May be substituted for French.)
6. *Ecclesiastical History*. Smith; Stanley; Lea; Hardwick.

7. *History*. English History; History of Modern Europe; History of United States.

8. *Greek*. Homer (or other authors, in any year of the classical course); History of Greek Literature. Two hours a week.

9. *Latin*. Two hours a week the first half year.

10. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Two hours a week.

11. *Philology*. Whitney; Peile.

12. *Drawing*. (As a *voluntary* extra study.)

## ENGINEERING COURSE.

### FRESHMAN CLASS.

1. *Scripture*. One hour a week.

2. *Mathematics*. Geometry and Algebra, four hours a week; Trigonometry and Surveying, three hours a week the second half year.

3. *English*. Rhetoric; Composition. One hour a week the first half year.

4. *Science*. Physics. Three hours a week the first half year. Chemistry. Three hours a week the second half year.

5. *Languages*. German. Three hours a week the first half year; two hours a week the second half year.

6. *History*. One hour a week the first half year; two hours a week the second half year.

7. *Natural Science*. Two hours a week the first half year; one hour a week the second half year.

8. *Practical Mechanics*. Lectures and instruction in the practical use of wood and metal working tools. Five hours a week.

9. *Mechanical Drawing*. Instruction in the principles and execution of machine drawings. Five hours a week the first half year; two and one-half hours a week the second half year.

10. *Free-Hand Drawing*. One hour a week.

## SOPHOMORE CLASS.

1. *Scripture*. One hour a week.
2. *Mathematics*. Advanced Algebra. One hour a week. Analytical Geometry and Calculus. Three hours a week.
3. *Science*. Chemistry; Qualitative Analysis; Laboratory Practice. Five hours a week. Physics; Heat and its applications. Two hours a week.
4. *Languages*. German. Two hours a week. French. Three hours a week.
5. *Ethics and Political Science*. Two hours a week.
6. *Practical Mechanics*. Instruction in machine shop. Five hours a week.
7. *Surveying*. Field Practice. Two and one-half hours a week in spring and fall.
8. *Mechanical Drawing*. Working drawings made from measurements of parts of machines; finished plots of surveys. Five hours a week.

## JUNIOR CLASS.

*NOTE*.—At this point election will be allowed to students of Mechanical or Civil Engineering, and the Course modified accordingly.

1. *Scripture*. One hour a week.
2. *Mathematics*. Analytical Mechanics. Two hours a week.
3. *Science*. Geology; Class room and field work. Two hours a week the first half year. Physics; Laboratory Practice. Two and one-half hours a week. Chemistry; Laboratory Practice; Analysis of ores, iron, steel, water, boiler scales, etc. Two and one-half hours a week.
4. *Astronomy*. Three hours a week the second half year.
5. *Languages*. Scientific German. Two hours a week. Scientific French. Three hours a week.
6. *Logic and Mental Philosophy*.
7. *Sanitary Engineering*. Lectures.

8. *Mechanical Engineering.* Materials of engineering. Two hours a week.

9. *Civil Engineering.* Theory; Constructions; Field Practice. Two hours a week, or equivalent in field work.

10. *Practical Mechanics.* Machine Work. Two and one-half hours a week.

11. *Mechanical Drawing.* Working drawings from measurements. Five hours a week the second half year.

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### SENIOR CLASS.

*NOTE.*—The hours are not assigned to all the studies. Sixteen hours a week or equivalents will be required of all students.

1. *Scripture.* One hour a week.

2. *Natural and Revealed Religion.*

3. *Mechanical Engineering.* Rankine's Machinery and Mill Work, Boilers, Fuels, etc.

4. *Sanitary Engineering.* Lectures and discussions.

5. *Mathematics.* Mechanics of Hydraulics.

6. *Mechanical Draughting.* Designs and Working Drawings for Machines.

7. *Civil Engineering.* Rankine's Civil Engineering; Investigation of Existing Structures.

8. *Practical Astronomy.*

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### LECTURES.

The Lectures and Courses of Lectures for the year 1883-84 were as follows:

<i>The Cultivation of the Memory, and the Best Books to Read,</i>	}	LORD COLERIDGE.
<i>History in Poetry,</i>		
<i>William Cowper,</i>		JAMES BRYCE, D.C.L.
<i>Brain-Food,</i>		PROF. THOMAS.
		CHARLES WOOD, A.M.

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<i>The Tariff Question,</i>	. . .	JONATHAN CHACE, M.C.
<i>The Tariff Question,</i>	. . .	JAMES WOOD, A.M.
<i>Alfred Tennyson,</i>	. . .	PRESIDENT CHASE.
<i>Darwinism,</i>	. . . . .	PROF. P. E. CHASE.
<i>English Poets,</i>	. . . . .	PROF. CORSON.
<i>The Geology of Southeastern</i>	}	PROF. LEWIS.
<i>Pennsylvania,</i>		
<i>The Italian Republics,</i>	. . .	PROF. DAVENPORT.

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## EXAMINATIONS.

In determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are written examinations of each class in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts, Science, or Engineering. These examinations are calculated to test as accurately as possible the scholarly habits of the students, and the attainments which they have made.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two thirds on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. But no student is entitled to such advancement, whatever his numbers or rank, unless, in the judgment of his instructors and caretakers, he has been faithful in his daily studies and satisfactory in his character and conduct.

The *viva voce* examinations are made in the daily recitations. Marks are given for each recitation attended; but special examinations are frequently used as an element in determining them. The average of these marks is combined with the average obtained in the semi-annual examinations, to find a student's rank.

## ADVANCED DEGREES.

BACHELORS OF ARTS, BACHELORS OF SCIENCE, and BACHELORS OF ENGINEERING of three years' standing may take respectively the degrees of MASTER OF ARTS, MASTER OF SCIENCE, or MECHANICAL or CIVIL ENGINEER on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an examination on some literary or scientific course of study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate courses of study to be presented by candidates for the second degree :

I. The whole of the New Testament in Greek, with Winer's or Buttmann's *N. T. Grammar*, Grimm's *Lexicon*, and Scrivener's *Introduction*.

II. The whole of Thucydides, together with Grote and Curtius on the Peloponnesian War.

III. Ten Tragedies of Æschylus, Sophocles, or Euripides.

IV. Cicero's *Tusculan Disputations* (five books), *De Natura Deorum*, and *De Officiis*, together with the *History of Ancient Philosophy*.

V. The whole of Tacitus, together with Merivale.

VI. Gervinus's *History of Modern Europe*, or Schiller's *History of the Thirty Years' War and Wallenstein* (all the parts), in the original German; together with a thorough examination in the nicer points of German Grammar and composition, and in translation at sight, both from German (not before read) into English, and from English into German.

VII. The *Nicomachean Ethics* of Aristotle (in the original); Jouffroy's *Introduction to Ethics*, and Whewell's *Ethics*.

VIII. Greek Literature, with translations at sight from any of the leading authors, and a short original essay in Greek on some topic connected with this subject.

IX. Latin Literature, with translations at sight from any of the leading authors, and an original essay in Latin.

X. Thermodynamics.

XI. Theoretical Astronomy (Watson and Gauss).

XII. Practical Astronomy (Chauvenet).

XIII. Rankine's Applied Mechanics, or Rankine's Civil Engineering.

XIV. Freeman's History of the Norman Conquest, Green's larger History of England, and Stubbs's, Hallam's, and May's Constitutional Histories; Bagehot's English Constitution.

XV. American History (Bancroft, Hildreth, Parkman, Frothingham's Rise of the Republic, Curtis's History of the Constitution, De Tocqueville, Von Holst's Constitutional History of the United States, The Federalist).

XVI. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Benfey, Fick, Leo Meyer, Pezzi). Some knowledge of Sanskrit will be expected of candidates in this course.

XVII. Modern Languages. Courses similar to VI, VIII, and IX may be offered in any modern language other than English. A high degree of proficiency will be required.

XVIII. Gothic; Old High German; Anglo-Saxon; Early English.

XIX. English Literature and Composition. (In addition to general knowledge, an intimate acquaintance with the authors of some characteristic epoch will be required, and a good English style, manifested in original essays.)

XX. Ecclesiastical History.

Candidates who are examined may also, if they desire, hand in Dissertations on topics in their field of study which they have specially investigated.

Resident Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree before the expiration of three years, if the Faculty deem it proper.

Masters of Arts and Science may be examined for the degrees of DOCTOR OF PHILOSOPHY and DOCTOR OF SCIENCE; but such degrees will be conferred only after satisfactory proof of the faithful and successful prosecution of courses of study fully equal in extent and quality to those required for similar honors in the best Universities.

Notice of application for examination must be given to the Dean two months before Commencement. The examinations will be held the last week in the Fifth month, and no later. The fee for the Diploma of the Second Degree is Twenty Dollars, of subsequent degrees, Thirty Dollars, to be paid to the Dean in all cases before the 10th of the Sixth month.

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### Alumni Prize For Composition and Oratory.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE of a Gold Medal, or of a Bronze Medal and Books of equal value, for excellence in Composition and Oratory.

The prize was awarded last year to AUGUSTUS TABER MURRAY, of the class of 1885, for his Oration on "John Greenleaf Whittier."

The following are the Rules governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall, on the evening of the last Sixth day in the Fifth month, hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the prize, if the elocution and the literary merits of the orations fall below a suitable standard of excellence.



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LIBRARY.

LIBRARIAN, Professor Allen C. Thomas; William F. Wickersham, *Assistant*. COMMITTEE in charge of the Library, Richard Wood, *Chairman*; Philip C. Garrett, Charles Roberts, Edward Bettle, Jr., Howard Comfort, William Penn Evans.

The number of bound volumes in the Library Hall, accessible to the members of the College, is 15,000. Of these the LIBRARY OF HAVERFORD COLLEGE contains 10,438 volumes; that of the LOGANIAN SOCIETY, 2517; those of other societies, 2050. Numerous American and European periodicals, scientific and literary, are taken in by the Library.

The income of a fund of ten thousand dollars is devoted annually to the increase of the Library.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves may be freely consulted. The Librarian devotes stated hours each week to the purpose of assisting and directing students in their reading, and in the skilful use of books of reference and consultation of authorities. He also arranges courses of reading.

A CARD CATALOGUE of the College and the Society Libraries shows at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

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MUSEUM.

CURATOR, Professor Thomas Newlin. COMMITTEE in charge of the Museum, Howard Comfort, *Chairman*; David Scull, Jr., Charles Roberts, Henry Bettle, Elliston P. Morris.

THE MINERALOGICAL COLLECTION contains over 3000 specimens, including the collection of the late Dr. Troost. THE GEOLOGICAL CABINET comprises about 2500 specimens, and contains complete suites illustrating the Geology of New York and South Carolina, prepared for the College by the

late Lardner Vanuxem. Collections of fossils and of shells were purchased in 1879. Donations have been received in 1880 from the State Geological Survey, and in 1881 and 1882 from William S. Vaux.

The cabinets of Natural History and curiosities which belonged to the Loganian Society have been presented to the College. A valuable collection of Birds have been given by David Scull, Jr., to which the Hannah W. Scull collection of birds' eggs is a useful adjunct.

A set of clastic models, made by Auzoux, of Paris, exhibiting by dissection the actual appearance and anatomy of the minute, as well as the larger organs of the human body, and of interesting subjects in ZOOLOGY, COMPARATIVE ANATOMY, and BOTANY, also a collection of casts of FOSSIL SPECIES in Natural History, made by Professor Ward, have been presented to the Museum by Richard Wood.

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## THE LABORATORIES.

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DIRECTOR, Prof. Lyman B. Hall.

EXTENSIVE APPARATUS is furnished for the illustration of Natural Philosophy and Chemistry.

THE CHEMICAL LABORATORY has separate working tables for thirty-eight students, and includes resources for practical work of various kinds.

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## THE GYMNASIUM.

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DIRECTOR, Dr. W. A. Ford.

THE GYMNASIUM was refitted early in 1881 with the apparatus of Dr. D. A. Sargent, Director of the Hemenway Gymnasium of Harvard University. A competent teacher,

a graduate of Jefferson Medical College and a pupil of Dr. Sargent, has direction of it, and gives systematic instruction, based upon careful personal examination, to each student desiring such aid. Regular work in the Gymnasium is required of all members of the Sophomore and Freshmen Classes.

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## ASTRONOMICAL OBSERVATORY.

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DIRECTOR, Prof. Isaac Sharpless. ASSISTANT, Wm. Earl Morgan.

THE HAVERFORD OBSERVATORY affords the students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two Equatorial Telescopes, one just finished by Clark, having an object-glass 10 inches in diameter, and one with an object glass of  $8\frac{1}{4}$  inches, with filar micrometer, ring micrometer, and eye-pieces; a polarizing eye-piece; a Newtonian Reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Grubb spectroscope; a Meridian Transit Circle, having a Telescope of 4 inches aperture, with a circle at each end of the axis 26 inches in diameter, one reading by 4 verniers to  $3''$ , the other used simply as a finder; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; 2 Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 40''$  N.; its longitude, 6 m. 59.4 sec. East from Washington.

A Special Course in Astronomy is offered to Amateurs and Teachers. The requisites for the Course and the fees charged will depend on the work which the applicant desires to perform.

DEPARTMENT OF ENGINEERING.

---

DIRECTOR, Prof. James Beatty, Jr.

Owing to the increased demand for instruction in practical work in connection with technical education, a DEPARTMENT OF ENGINEERING has been established in the College.

The scope of the department embraces MECHANICAL, CIVIL, and SANITARY ENGINEERING, with instruction in both theory and practice.

THE MACHINE SHOP, which has just been completed for the new department, is equipped with all the tools necessary for instruction in carpenters' and machinists' work, including hand and machine lathes, shaper, drill press, forge, vises, etc.

The work in the shop is conducted by means of progressive exercises, combining the principles met with in machine construction.

There are full sets of instruments necessary for the practical work in civil engineering.

In the latter part of the course the three departments will be separated, each taking such work as is especially adapted to its needs.

A course in practical astronomy will be included in the civil engineering work.

The students, under the care of the director, will be taken to visit machine shops and engineering constructions in Philadelphia and its vicinity.

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SOCIETIES.

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THE LOGANIAN SOCIETY was established by the Officers and Students in 1834. The exercises in its meetings are Discussions, Declamations, Original Essays, etc. The So-

ciety publishes a manuscript paper or magazine, "THE COLLEGIAN." It has in its possession a carefully-selected Library of 2517 volumes, and a cabinet of medals and coins.

THE ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 2050 volumes.

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## SITUATION OF THE COLLEGE.

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The College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST-OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County*, Pa. The buildings are surrounded by grounds of upwards of sixty acres, tastefully laid out, and adorned with well-kept lawns and a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base ball, foot-ball, lawn-tennis, and other field games, and a pond for skating.

THE FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; BARCLAY HALL in 1876-77; the NEW OBSERVATORY in 1883; and the MACHINE SHOP was established in 1884. Barclay Hall, a beautiful edifice of granite, 220 by 40 feet, contains the private studies and dormitories. It is furnished with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining-room, recitation-rooms, and Museum are in the Founders' Hall, which was remodelled internally in 1878 and 1882.

## INSTRUCTION AND DISCIPLINE.

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The courses of instruction at Haverford, aiming at thorough and generous training, embrace the standard studies proved by long experience to be the most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent times. The courses are so designed that the Baccalaureate Degrees, whether in Arts or Science, may attest a comprehensive and truly liberal Education.

As the students form one household, Religious Instruction is carefully provided. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the classical course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, and Barclay's Apology or Gurney's Essays, form part of the regular course of study, required of all the students. Loyal to all truth, Haverford College inculcates faithfully the simple and immutable truths of pure religion.

In the discipline of the college, the officers endeavor to promote habits of diligence, order, and regularity. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.

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DEGREES GRANTED IN 1884.

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At the Commencement in 1884 Degrees were granted in course, to the following graduates :

## BACHELORS OF ARTS.

JOHN HENRY ALLEN,  
ORREN WILLIAM BATES,  
THOMAS HERBERT CHASE,  
WILLIAM JONES HAINES,  
ARTHUR DILWYN HALL,  
CHARLES RICHARD JACOB,  
ALFRED PERCIVAL SMITH.

## BACHELORS OF SCIENCE.

LOUIS TABER HILL,  
WALTER LINTON MOORE,  
GEORGE VAUX, JR.

## BACHELOR OF LETTERS.

FRANCIS A. WHITE, JR.

## MASTERS OF ARTS.

The degree of MASTER OF ARTS was granted upon examination to

JAMES J. LEVICK, M.D. (Class of 1842).  
CASPAR WISTAR HAINES (Class of 1872).

The degree of MASTER OF ARTS was bestowed *honoris causa* upon

JOSEPH PARRISH,  
ELIJAH COOK.

# PROGRAMME OF RECITATIONS

FOR THE

FIRST HALF-YEAR 1884-5.

## SECOND-DAY.

	9.30-10.30		11-12	2-3	3-4
SENIORS.....	Scripture.	.....	Butler's Anal.	Astronomy.	Greek.
JUNIORS.....	Scripture.	.....	Geology.	Eccl. Hist.	Eng. Hist.
SOPHOMORES.	Scripture.	.....	Ethics.	.....	Geology.
FRESHMEN....	Scripture.	.....	Geometry.	German.	Surveying.
					Latin.

## THIRD-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	Latin.	Astronomy.	Psychology.	French.	German.
JUNIORS.....	German.	Shop work.	Rhetoric.	Eccl. Hist.	Greek.
SOPHOMORES.	Des. Geom.	Latin.	Shop work.	Shop work.	German.
FRESHMEN....	Nat. Philos.	Shop work.	Shop work.	.....	Ethics.
	German.	Zoology.			
	Nat. Philos.	Greek.	Zoology.	.....	Rhetoric.

## FOURTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	History.	.....	Butler's Anal.	Chemistry.	German.
JUNIORS.....	Latin.	Shop work.	Anal. Geom.	.....	Chemistry.
SOPHOMORES.	Physics.	.....			Greek.
	Draw'g Div. I.	Latin.	Nat. Philos.	Mech. Draw'g.	German.
FRESHMEN....	Physics.	Shop work	Zoology.	Greek.	Mech. Draw'g.
	Geometry.	.....	Shop work.		
			Greek.	.....	Geometry.

## FIFTH-DAY.

	8.30-9.30	9.30-10.30	11	2-3	3-4
SENIORS.....	Mechanics.	Latin.	Meeting.	Eng. Hist.	Greek.
JUNIORS.....	German.	Physics.	Meeting.	Hebrew.	French.
SOPHOMORES.	Nat. Philos.	Draw'g Div. II.	Meeting.	Anal. Chem.	Anal. Chem.
FRESHMEN....	German.	Physics.		Anal. Chem.	Greek.
	Drawing.	Geometry.	Meeting.	.....	Anal. Chem.
	Nat. Philos.				Rhetoric.

## SIXTH-DAY.

	9-10	10-11	11-12	2-3	3-4
SENIORS.....	French.	Mechanics.	History.	Chemistry.	Psychology.
JUNIORS.....	Chemistry.	Chemistry.		Hebrew.	
SOPHOMORES.	Anal. Geom.	.....	Latin.	Anal. Chem.	Anal. Chem.
FRESHMEN....	Eng. (Cl. Sec.)	Eng. (Sc. Sec.)	Desc. Geom.	Anal. Chem.	Latin.
	German.	Latin.	Surveying.		Anal. Chem.
			Greek.	German.	Latin.
			Drawing		

## SEVENTH-DAY.

	8.30-9.30	9.30-10.30.
SENIORS.....	History.	
JUNIORS.....	Anal. Geom.	Rhetoric.
SOPHOMORES.	Greek.	Surveying.
FRESHMEN....	Mec. Draw'g.	
	Zoology.	Latin.
	Mec. Draw'g.	Mech. Draw'g.







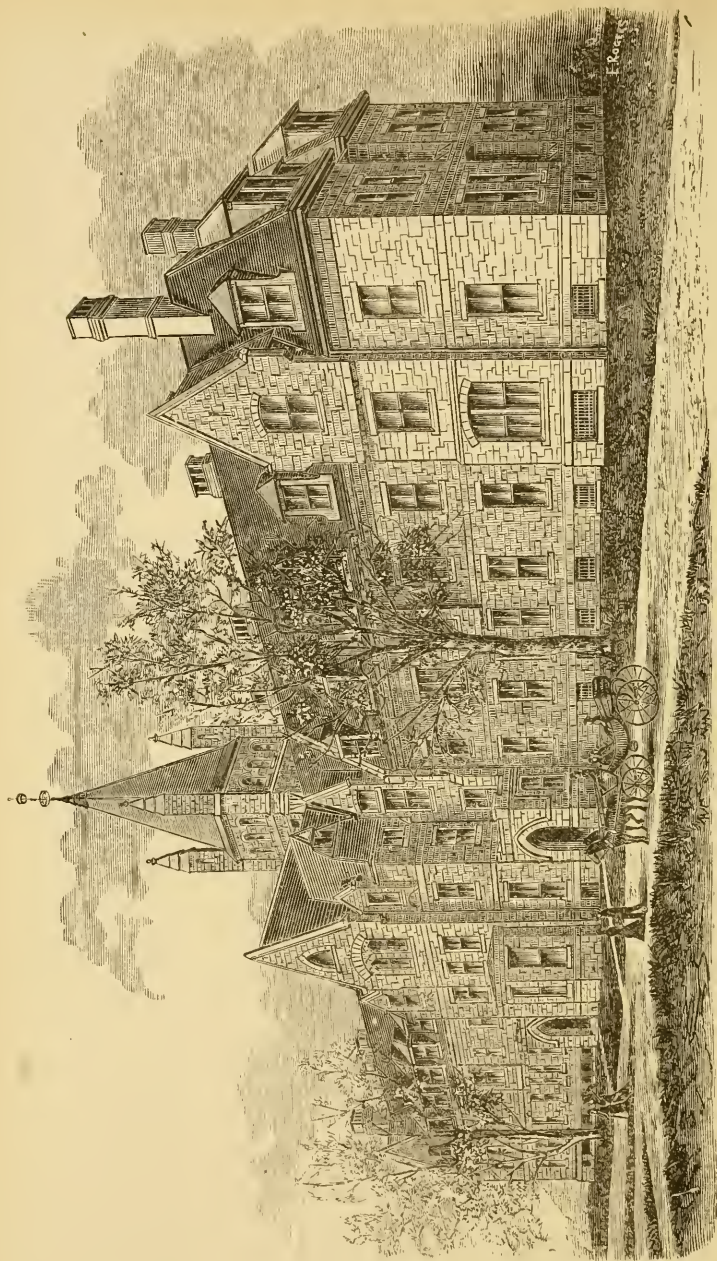
CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1885-86.



PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1885.







BARCLAY HALL.

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FOR THE  
ACADEMICAL YEAR

1885—86.



PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1885.

# CORPORATION.

---

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1716 Arch St., Philadelphia.

*Treasurer,*

ASA S. WING,

409 Chestnut St., Philadelphia.

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ASA S. WING,  
ELLISTON P. MORRIS,  
FRANCIS STOKES,  
JAMES WOOD.

*Secretary of the Board,*

HOWARD COMFORT,

529 Arch St., Philadelphia.

---

*Executive Committee,*

JAMES WHITALL,  
DAVID SCULL,  
EDWARD BETTLE, JR.,  
RICHARD CADBURY,  
PHILIP C. GARRETT,

CHARLES ROBERTS,  
JOHN B. GARRETT,  
JUSTUS C. STRAWBRIDGE,  
HOWARD COMFORT,  
ASA S. WING.



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FACULTY.

---

THOMAS CHASE, LTT.D., LL.D., PRESIDENT,  
AND PROFESSOR OF PHILOLOGY AND LITERATURE.

PLINY EARLE CHASE, LL.D.,  
PROFESSOR OF PHILOSOPHY AND LOGIC.

ISAAC SHARPLESS, SC.D., DEAN,  
AND PROFESSOR OF MATHEMATICS AND ASTRONOMY.

\*ALLEN CLAPP THOMAS, A.M., LIBRARIAN,  
PROFESSOR OF HISTORY, POLITICAL SCIENCE, AND RHETORIC.

LYMAN BEECHER HALL, PH.D.,  
JOHN FARNUM PROFESSOR OF CHEMISTRY AND PHYSICS.

SETH K. GIFFORD, A.M.,  
PROFESSOR OF GERMAN AND LATIN.

EDWIN DAVENPORT, A.M., LIBRARIAN,  
PROFESSOR OF HISTORY, POLITICAL SCIENCE, AND RHETORIC.

\*HENRY CARVILL LEWIS, A.M.,  
PROFESSOR OF GEOLOGY.

THOMAS NEWLIN, S.B.,  
PROFESSOR OF BIOLOGY, CURATOR OF THE MUSEUM, AND IN CHARGE OF  
THE DISCIPLINE.

JAMES BEATTY, JR, M. E.,  
PROFESSOR OF ENGINEERING.

---

WALTER A. FORD, M.D.,  
INSTRUCTOR IN PHYSICAL TRAINING AND DIRECTOR OF THE GYMNASIUM.

ALPHONSE N. VAN DAELL, LL.D.,  
INSTRUCTOR IN FRENCH.

JOSEPH L. MARKLEY, A.B.,  
ASSISTANT IN THE ASTRONOMICAL OBSERVATORY.

\* Absent for one year in Europe.

## GRADUATE STUDENTS.

CLINTON W. LUCAS, A.B.,

JOSEPH L. MARKLEY, A.B.

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SENIOR CLASS.

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*CLASSICAL SECTION.*

DICKINSON, JONATHAN, JR., . . .	Poughkeepsie, N. Y.
SCOTT, ALEXANDER HARVEY, . . .	Philadelphia, Pa.
SMITH, HORACE EUGENE, . . .	Philadelphia, Pa.
WADSWORTH, EDWARD DORLAND, .	Hallowell, Maine.

*SCIENTIFIC SECTION.*

BETTS, THOMAS WADE, . . . .	Wilmington, Ohio.
JOHNSON, GUY ROCHE, . . . .	Longdale, Va.
McFARLAND, WILLIAM STUART, .	Mt. Laurel, N. J.
MORRIS, ISRAEL, JR., . . . .	Philadelphia, Pa.
MORRIS, WILLIAM PAUL, . . . .	Philadelphia, Pa.
UNDERHILL, ALFRED MOTT, JR., .	Poughkeepsie, N. Y.
WHITE, WILFRED WALTON, . . .	Raysville, Ind.

## JUNIOR CLASS.

### CLASSICAL SECTION.

ADAMS, JAY HOWE, . . . . .	Philadelphia, Pa.
CASSATT, EDWARD BUCHANAN, . . .	Haverford Coll., Pa.
FUTRELL, WILLIAM HARRISON, . . .	Rich Square, N. C.
GARRETT, ALFRED COPE, . . . . .	Germantown, Pa.
GODDARD, HENRY HERBERT, . . . .	Vassalboro, Maine.
HAZARD, WILLIS HATFIELD, . . . .	West Chester, Pa.
NEWHALL, BARKER, . . . . .	Lynn, Mass.
PARKER, JOHN EBERLY, . . . . .	Raysville, Ind.
PHILIPS, JESSE EVANS, JR., . . . .	E. Nantmeal, Pa.
STOKES, HENRY WARRINGTON, . . .	Germantown, Pa.
STRAWBRIDGE, FREDERIC HEAP, . . .	Germantown, Pa.
WHITE, RICHARD JANNEY, . . . . .	Baltimore, Md.
WOOD, GEORGE BACON, . . . . .	Philadelphia, Pa.
WOOD, WILLIAM CONGDON, . . . . .	New York, N. Y.
YOUNG, FRANK L., . . . . .	Union Springs, N. Y.

### SCIENTIFIC SECTION.

BAILY, ARTHUR HALLAM, . . . . .	Spiceland, Ind.
BEDELL, CHARLES HAMPTON, . . . .	Poughkeepsie, N. Y.
CLEMENT, ALLEN BALLINGER, . . . .	Camden, N. J.
LESLEY, HUGH, . . . . .	Philadelphia, Pa.

### ENGINEERING SECTION.

EVANS, HORACE YOUNG, JR., . . . .	Philadelphia, Pa.
HACKER, WILLIAM ESTES, . . . . .	Germantown, Pa.
JANNEY, JOHN HALL, . . . . .	Brighton, Md.
MORRIS, P. HOLLINGSWORTH, . . . .	Philadelphia, Pa.
TRIMBLE, WILLIAM WEBSTER, . . . .	Harrisville, Ohio.

---

CHASE, ALFRED, . . . . .	Haverford Coll., Pa.
LEWIS, EDMUND COLEMAN, . . . . .	Philadelphia, Pa.

## SOPHOMORE CLASS.

*CLASSICAL SECTION.*

ENGLAND, HOWELL SPROUD, . . .	Wilmington, Del.
ORBISON, THOMAS J., . . . . .	Bellefonte, Pa.
NIELDS, PERCY, . . . . .	Wilmington, Del.
PATTERSON, GEORGE STUART, . .	Chestnut Hill, Pa.
POPE, EDWARD MORRILL, . . . .	Cleveland, Ohio.
STUBBS, MARTIN BELL, . . . . .	Philadelphia, Pa.
WOOD, CHARLES RANDOLPH, . . .	Philadelphia, Pa.

*SCIENTIFIC SECTION.*

BATTEY, CHARLES HEATON, . . .	Providence, R. I.
BOWNE, HOWLAND, . . . . .	New York, N. Y.
COLLINS, FREDERIC, JR., . . . .	Philadelphia, Pa.
CORBIT, JOHN COWGILL, JR., . .	Odessa, Del.
DAWSON, CHARLES WILMOT, . . .	Lowell, Mass.
GUMMERE, HENRY VOLKMAR, . . .	Philadelphia, Pa.
HARTSHORNE, FRANCIS COPE, . .	Overbrook, Pa.
HILLES, JOSEPH TATUM, . . . . .	Wilmington, Del.
LEWIS, WILLIAM DRAPER, . . . .	Philadelphia, Pa.
ROBERTS, GEORGE BRINTON, . . .	Bala, Pa.
SHARP, JOSEPH WEBSTER, JR., . .	Berwyn, Pa.

*ENGINEERING SECTION.*

BEIDELMAN, LAWRENCE PETERSON,	Little Rock, Ark.
JOHNSON, JOSEPH ESREY, . . . .	Longdale, Va.
MORRIS, FREDERICK WISTAR, JR., .	Philadelphia, Pa.
MORRIS, RICHARD JONES, . . . .	Philadelphia, Pa.

BINNS, EDWARD HUSSEY, . . . .	Pittsburgh, Pa.
JANNEY, RICHARD MOTT, . . . .	Churchville, Md.

## FRESHMAN CLASS.

### CLASSICAL SECTION.

EVANS, THOMAS, . . . . .	Germantown, Pa.
FITE, WARNER HUTCHINSON, . . .	Philadelphia, Pa.
GEARY, JOHN WHITE, . . . . .	Philadelphia, Pa.
KIRKBRIDE, FRANKLIN BUTLER, . .	Philadelphia, Pa.
LEWIS, DANIEL CLARK, . . . . .	Susp. Bridge, N. Y.
MORRIS, LAWRENCE JOHNSON, . . .	Philadelphia, Pa.
MORRIS, SAMUEL BUCKLEY, . . . .	Germantown, Pa.
OVERMAN, WILLIAM FRANKLIN, . .	Goldsboro, N. C.
PEIRSON, FRANK WARRINGTON, . .	Lockport, N. Y.
READE, WALTER GEORGE, . . . .	Philadelphia, Pa.
SMITH, WALTER EMANUEL, . . . .	Philadelphia, Pa.
VAIL, FREDERICK NEILSON, . . . .	Los Angeles, Cal.
WOOD, GILBERT CONGDON, . . . .	New York, N. Y.

### SCIENTIFIC SECTION.

DUNTON, WILLIAM RUSH, . . . . .	Germantown, Pa.
EVANS, WILLIAM HENRY, . . . . .	Col. Springs, Col.
FIRTH, HENRY HEBERTON, . . . .	Germantown, Pa.
GRISCOM, RODMAN ELLISON, . . .	Haverford Coll., Pa.
JANSEN, CORNELIUS, JR., . . . .	Beatrice, Neb.
MORRIS, HERBERT, . . . . .	Germantown, Pa.
REINHARDT, DAVID JONES, . . . .	Marlboro, Pa.
SACHSE, ALBERT FREDERIC, . . . .	Berwyn, Pa.
SMITH, WILSON LONGSTRETH, . . .	Germantown, Pa.
VEEDER, HERMAN GREIG, . . . .	Allegheny, Pa.

### ENGINEERING SECTION.

BOND, FRANK EDWARD, JR., . . . .	Germantown, Pa.
SCHWARTZ, JOHN LOESER, . . . . .	Pittsburgh, Pa.
SHUPERT, CHARLES M., . . . . .	Bryn Mawr, Pa.
THOMPSON, FRANK EARLE, . . . .	Little Rock, Ark.

CAUSEY, FOSTER, . . . . .	Milford, Del.
CAUSEY, TRUSTEN POLK, . . . . .	Milford, Del.
ROGERS, JAMES WADSWORTH, . . .	Philadelphia, Pa.

## SUMMARY.

Seniors, . . . . .	11
Juniors and Special Students, .	26
Sophomores and Special Students, .	24
Freshmen and Special Students, .	30
	—
Total of Undergraduates, .	91
Graduate Students, . . . . .	2
	—
Total, . . . . .	93

## CALENDAR.

College Year,* 1885-86, began with the beginning of the Autumn Term, 1885,	9th Mo. 16.
Winter Recess begins . . . . .	12th Mo. 23.
Winter Term begins, 1886,* . . . . .	1st Mo. 4.
Mid-year Examinations begin . . . . .	1st Mo. 23.
Second Half-year begins . . . . .	2d Mo. 2.
Oration before the Loganian Society, . . . . .	4th Mo. 15.
Junior Exercises, 6th Day, . . . . .	4th Mo. 16.
Spring Recess begins . . . . .	4th Mo. 16.
Spring Term begins* . . . . .	4th Mo. 26.
Public Oration for the Alumni Prize, . . . . .	5th Mo. 27.
Public Meeting of the Loganian Society, . . . . .	6th Mo. 21.
Address to the Graduating Class, . . . . .	6th Mo. 22.
Commencement Day, 1886, . . . . .	6th Mo. 22.
Examinations for Admission, 2 P.M., . . . . .	6th Mo. 22.

## VACATION OF TWELVE WEEKS.

Examinations for Admission, 9.30 A.M.,† . . . . .	9th Mo. 14.
College Year, 1886-87, begins* . . . . .	9th Mo. 15.
Alumni Meeting, . . . . .	10th Mo. 8.
Alumni Oration, . . . . .	10th Mo. 8.
Winter Recess begins . . . . .	12th Mo. 24.
Winter Term begins, 1887, . . . . .	1st Mo. 3.
Second Half-year begins . . . . .	2d Mo. 1.
Spring Recess begins . . . . .	4th Mo. 15.
Commencement Day, 1887, . . . . .	6th Mo. 21.
College Year, 1887-88, begins* . . . . .	9th Mo. 15.

\* The first recitations are due promptly at *half-past nine o'clock*, at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

† See also page 15.



## REQUISITES AND TERMS OF ADMISSION.

CANDIDATES for admission to the Freshman Class in the COURSE IN ARTS AND SCIENCE will be examined as to their proficiency in the following requisites:

CLASSICS.—A familiar knowledge of the paradigms, and of the leading rules in Syntax, in *Latin and Greek Grammar*, to be tested, in part, by *writing* sentences in Latin and Greek (with the accents and breathings, in the latter language); acquaintance with Prosody, to be proven by *scanning verses* from Vergil; and, in general, a sufficient knowledge of both languages to enable one to pursue, with facility and advantage, the studies of the Freshman year. Candidates will be examined in Cæsar, Cicero, Vergil, and Xenophon and Homer; or equivalents.

MATHEMATICS.—*Arithmetic*, including the *Metric System*; *Algebra*, to Quadratic Equations of two unknown quantities; *Geometry*, the first three books.

ENGLISH.—*Spelling*, *Grammar*, *English Composition*, *Political Geography*, *Physical Geography*, the elements of *Greek and Roman History* (the Primers of Greek and Roman History will indicate the amount required), and the *History of the United States*. The examinations in these subjects will be regarded as of no less weight than those in classics and mathematics. Acquaintance with the elements of the *History of England* will be found advantageous.

Every candidate will be required to write a short English composition, correct in spelling, punctuation, grammar,

division by paragraphs, and expression, upon a subject announced at the time of examination. In 1886, the subject will be drawn from one of the following works: Milton's *Comus*; Goldsmith's *Deserted Village*; Macaulay's *Essay on Warren Hastings*; Ruskin's *Sesame and Lilies*.

DRAWING.—Practice in Free-Hand Drawing, from childhood up, is earnestly recommended as an important part of the preparation for advanced studies.

Candidates for admission to the Freshman Class in the SCIENTIFIC COURSE will pass the same examination as candidates for the Course in Arts, except in the Greek language, and will also be examined in the elements of *Physics* and of *Human Physiology*.

For the Freshman Class of the ENGINEERING COURSE the same preparation will be required as for the Freshman Class of the Scientific Course, except that Whitney's *German Grammar and Reader* may be presented instead of Latin.

Satisfactory examination-papers, written under proper supervision at first-class schools, and forwarded or reported to us by the teachers, will be accepted so far as they cover the same ground as our own requisitions. Certificates of private tutors will not be accepted.

Students not candidates for a degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and also on subsequent examination thoroughly fitted in all the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that "the College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismission in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to the Dean. Entry Blanks will be furnished on application. Rooms are assigned in the order in which these entry-blanks, properly filled up, are received at the Dean's office. Candidates will present themselves at Founders' Hall, for examination by the Faculty, *at 2 o'clock on Commencement day*, or at *9.30 o'clock on the morning previous to the beginning of the College year*.

The price of Board and Tuition (together with fuel, lights, and all necessary furniture and service), is \$500.00 per annum, payable to the Dean, one-half at the beginning, and one-half at the middle of the College year. Washing is charged at the rate of 75 cents per dozen.

For day-students who dine at the College, the annual charge is \$250.00, and for tuition alone \$150.00.

There is a telegraph office and an Adams Express office at the College Station, and there is a U. S. Money-order office at Bryn Mawr, Montgomery Co., Pa., one mile from the College.

For further information, and for circulars and catalogues, address ISAAC SHARPLESS, Dean, Haverford College P.O., Montgomery Co., Pa.

## COURSES OF INSTRUCTION.

### COURSE IN ARTS AND SCIENCE.

#### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.

2. *Mathematics*. Sharpless's Geometry; Wells's University Algebra. Four hours a week.

3. *Greek*. Xenophon's Hellenica, or an equivalent; Herodotus; Homer; Review of Greek Grammar; Translations at sight (Xenophon's Hiero).

4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin*. Livy (Chase); The Odes and Epodes of Horace (Chase); Review of Latin Grammar; Translations at sight (Cicero de Senectute and De Amicitia).

6. *Latin Prose Composition*. Bennett. Subjects 5 and 6, four hours a week.

7. *Rhetoric and Composition*. Principles of Rhetoric (A. S. Hill); Composition.

8. *History*. History of Greece; History of Rome; Greek and Roman Antiquities; The Chief Historical Epochs. Subjects 7 and 8, two hours a week.

9. *Zoology*. *Hygiene*. *Meteorology*. *Botany*. Two hours a week.

10. *Drawing*. Free-Hand Drawing from Objects. One hour a week.

#### SOPHOMORE CLASS.

1. *Scripture*. The New Testament, English and Greek (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

2. *Mathematics*. Gummere's Trigonometry and Surveying, with Field Practice; Wentworth's Plane and Spherical Trigonometry; Advanced Algebra. Three hours a week.

3. *Greek*. The Iliad and Odyssey of Homer; Plato's Apology and Crito, or Phaedo; The Prometheus of Æschylus; Aristophanes (Rugby edition). Translations at sight (Xenophon's Memorabilia Socratis).

4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin*. Horace, Satires and Epistles; The Germania and Agricola of Tacitus; Selections from Lyric Poets; Translations at sight (Quintus Curtius).

6. *Latin Prose Composition*. Abbott. Subjects 5 and 6, three hours a week the first half-year, two hours the second.

7. *Ethics and Christian Evidences*. Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

8. *English Literature*. Lounsbury's History of the English Language; Lives and Works of English Authors. One hour a week the first half-year.

9. *Rhetoric*. Whately's Rhetoric, Part III.; Themes.

10. *Political Science*. Cooley's Principles of Constitutional Law; Constitution of the United States. Subjects 9 and 10, two hours a week the second half-year.

11. *Physics*. Three hours a week the first half-year.

12. *Chemistry*. Eliot and Storer's Chemistry. Three hours a week the second half-year.

13. *Drawing*. Free-Hand Drawing from Objects. One hour a week.

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## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

\*2. *Mathematics.* Analytical Geometry and Calculus. Three hours a week.

\*3. *Greek.* Thucydides; The Antigone of Sophocles; The Medea of Euripides; The Alkestis of Euripides; Extemporalia (writing and translating). Three hours a week.

4. *Latin.* Cicero's Tusculan Disputations and Somnium Scipionis (Chase); Pliny's Letters; Vergil's Bucolics and Georgics, or an equivalent; Terence (at sight); Extemporalia. Two hours a week.

5. *German.* Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts; Translations at sight, and oral exercises. Two hours a week.

6. *French.* Sauveur et Van Daell, La parole française; Voyage autour de ma Chambre; Ventura, Peppino; Histoire de Charles XII; Exercises. Two hours a week.

7. *Geology.* Dana's Text-Book, and field work. Two hours a week the first half-year.

8. *Astronomy.* Newcomb and Holden's Descriptive Astronomy. Two hours a week the second half-year.

9. *Rhetoric.* Whately's Rhetoric; Gummere's Poetics; Themes.

10. *Political Science.* Jevons' Political Economy; History of American Politics; Forensics. Subjects 9 and 10, two hours a week the first half-year, one hour a week the second.

11. *History.* Keary's Dawn of History.

12. *Logic.* Whately and Hamilton; or Jevons.

13. *Psychology.* Haven's Mental Philosophy (begun). Subjects 12 and 13, three hours a week the second half-year.

14. *Elocution.* Rehearsals for Public Exercises.

15. *Drawing.* (For students who have not attained a sufficient proficiency, or as a voluntary study for others.) One hour a week.

\* Election will be allowed between subjects 2 and 3.

## ELECTIVE STUDIES.

(Two hours a week to be selected the first half-year; also the second half-year, if students have sufficient proficiency in German or French.)

1. *Descriptive Geometry, Shades and Shadows, and Perspective.* Two hours a week the first half-year.

2. *Chemistry.* Qualitative Analysis; Laboratory Practice. Twice a week the first half-year, counting as two hours of recitation.

3. *Mineralogy.* Practical exercises; Dana's Text-book. Two hours a week the second half-year.

4. *Hebrew.* Grammar; Exercises; Translations from the Old Testament. Two hours a week.

5. *Italian.* Grammar and oral exercises; Dante. Two hours a week.

## SENIOR CLASS.

## REQUIRED STUDIES.

1. *Scripture.* Greek Testament continued. One hour a week.

2. *Latin and Classical Literature.* The Captives of Plautus, and Extemporalia; Selections from Juvenal; Cicero's Letters; Selections from Lucretius; The Ancient Pronunciation of Latin; Latin Composition; History of the Literatures of Greece and Rome. Two hours a week.

3. *Anglo-Saxon.* One hour a week the second half-year.

4. *Political Science.* Political Economy; International Law (Lectures). One hour a week the first half-year.

5. *Psychology.* Haven continued; Mental Physiology (Carpenter); Lectures. Two hours a week the first half-year.

6. *Natural and Revealed Religion.* Butler's Analogy. Two hours a week the first half-year.

7. *Christian Doctrines.* Barclay or Gurney. One hour a week the second half-year.

8. *English.* Philological Study; Milton's Areopagitica; Chaucer; Themes and Forensics. One hour a week the second half-year.

9. *History*. Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Adams's Mediæval Civilization; Seeborn's Protestant Revolution. Two hours a week.

10. *Anatomy, Physiology, and Hygiene*. Two hours a week the second half-year.

11. *Elocution and Composition*. A Public Oration at Commencement.

#### ELECTIVE STUDIES.

(Six hours to be selected.)

1. *Analytical Mechanics*. Two hours a week through the year.

2. *Astronomy, etc.* Loomis's Practical Astronomy, with special practice in the Observatory. Two hours a week through the year. (Courses 1 and 2 are open only to those who have studied Mathematics in the Junior year.)

3. *Analytical Geometry and Calculus*. Three hours a week.

4. *Civil and Sanitary Engineering*. Mahan; Thurston; Searle; Waring; Field Practice. Two hours a week.

5. *Physics*. Acoustics; Optics; Electricity; Magnetism. Two hours a week.

6. *Chemistry*. Analysis and other Experimental Practice. Twice a week.

7. *Classical Philology, and Greek*. Æschines and Demosthenes on the Crown, or an equivalent; Aristotle; Extemporalia; Greek Pastoral and Lyric Poets; Greek Composition; Papillon's Greek and Latin Inflections; Peile's Greek and Latin Etymology, with Curtius, Vaniček, and Corssen for reference; Curtius's and Roby's Grammars for reference; Inscriptions. Two hours a week.

8. *Psychology*. Berkeley; Bowne. Two hours a week the second half-year.

9. *History*. Green's English History; Bryce's Holy Roman Empire; History of United States.

10. *Ecclesiastical History*. Smith; Stanley; Lea; Hardwick.



11. *German.* Zschokke's *Der Zerbrochene Krug*; *Das Wirthshaus zu Cransac*; Fouqu  's *Undine*, or an equivalent in prose; Schiller's *Wilhelm Tell*; Review of the Grammar; Oral and Written Exercises. Two hours a week.

12. *French.* Sauveur, *Grammaire Fran  aise pour les Anglais*; *Fables de la Fontaine*; Translation into French and Exercises; Taine's *Essays*; Racine's *Athalie*; Moli  re or Corneille. Two hours a week.

13. *Hebrew.* Grammar; Exercises; Translations from the Old Testament. Two hours a week.

14. *Philology*; Sanskrit (Grammar); *Hitopadesa*; Whitney; Peile.

15. *Italian.* Grammar and Oral Exercises; Dante. Two hours a week.

## SCIENTIFIC COURSE.

### FRESHMAN CLASS.

1. *Scripture.* The Gospel according to John. One hour a week.

2. *Mathematics.* Sharpless's *Geometry*; Wells's *University Algebra*. Four hours a week.

3. *Latin.* Livy (Chase); Horace (Chase); Review of Latin Grammar; Translations at sight (*Cicero de Senectute* and *De Amicitia*).

4. *Latin Prose Composition* (Bennett). Subjects 3 and 4, four hours a week.

5. *Rhetoric and Composition.* Principles of Rhetoric (A. S. Hill); Composition.

6. *History.* History of Greece; History of Rome; Greek and Roman Antiquities; The Chief Historical Epochs. Subjects 5 and 6, two hours a week.

7. *Physics.* Three hours a week the first half-year.

8. *Chemistry.* Eliot and Storer. Three hours a week the second half-year.

9. *Zoology, Hygiene, Meteorology, Botany.* Two hours a week.

10. *Drawing.* Free Hand Drawing from Objects. One hour a week.

### SOPHOMORE CLASS.

1. *Scripture.* The New Testament. One hour a week.

2. *Mathematics.* Gummere's Trigonometry and Surveying, with Field Practice; Wentworth's Plane and Spherical Trigonometry; Advanced Algebra. Three hours a week.

3. *French.* Sauveur et Van Daell, La parole Française; Voyage autour de ma Chambre; Ventura, Peppino; Histoire de Charles XII; Exercises. Two hours a week.

4. *German.* Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts; Translations at sight, and oral exercises. Two hours a week.

5. *Ethics and Christian Evidences.* Dymond's Essays on Morality; Paley's Evidences of Christianity. Two hours a week.

6. *English Literature.* Lounsbury's History of the English Language; Lives and Works of English Authors. One hour a week the first half-year.

7. *Rhetoric.* Whately's Rhetoric, Part III.; Themes.

8. *Political Science.* Cooley's Principles of Constitutional Law; Constitution of the United States. Subjects 7 and 8, two hours a week the second half-year.

9. *Chemistry.* Qualitative Analysis; Laboratory Practice. Twice a week the first half-year, counting as two hours of recitation.

10. *Chemical Philosophy; Chemistry of Carbon Compounds.* Two hours a week the second half-year.

11. *Physics.* Deschanel; Heat. Two hours a week the first half-year.

In alternate years, subjects 10 and 11 will be studied in the Junior year in place of course 12 of that year.

12. *Natural History*. Advanced Zoology and Biology. One hour a week the second half-year.

13. *Drawing*. Mechanical Drawing from Objects, Geometrical Solids, etc.; Isometric and Perspective Drawing. Three hours a week, counting as one hour.

\* \* Latin, Advanced French, or Elementary Greek, may be taken if desired.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible; or, the Greek Testament (for students having a sufficient knowledge of Greek). One hour a week.

2. *Mathematics*. Analytical Geometry and Calculus. Three hours a week.

3. *Mathematics*. Descriptive Geometry; Isometric Projection, Shades and Shadows, and Perspective. Two hours a week the first half-year.

4. *Geology*. Dana's Text-Book, and field work. Two hours a week the first half-year.

5. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Two hours a week the second half-year.

6. *German*. Zschokke's *Der Zerbrochene Krug*; *Das Wirthshaus zu Cransac*; Fouqué's *Undine*, or an equivalent of prose; Schiller's *Wilhelm Tell*; Review of the Grammar; Oral and Written Exercises. Two hours a week.

7. *Rhetoric*. Whately's *Rhetoric*; Gummere's *Poetics*; Themes.

8. *Political Science*. Jevons' *Political Economy*; History of American Politics; Forensics. Subjects 7 and 8, two hours a week the first half-year, one hour the second.

9. *History*. Keary's *Dawn of History*.

10. *Logic*. Whately and Hamilton; or, Jevons.

11. *Psychology*. Haven's *Mental Philosophy* (begun). Subjects 10 and 11, three hours a week the second half-year.

12. *Physics*. Acoustics; Optics; Electricity; Magnetism. Two hours a week.

In alternate years this subject will be studied in the Sophomore year in place of courses 10 and 11 of that year.

13. *Elocution*. Rehearsals for Public Exercises.

#### ELECTIVE STUDIES.

(One subject to be selected.)

1. *Chemistry*. Qualitative and Quantitative Analysis. Twice a week, counting as two hours of recitation.

2. *Mineralogy*. Practical Exercises in Crystallography and Determination of Minerals; Dana's Text-Book. Two hours a week the second half year.

3. *French*. Sauveur, Grammaire Française pour les Anglais; Fables de la Fontaine. Translation into French and Exercises. Taine's Essays; Racine's *Athalie*; Molière or Corneille. Two hours a week.

4. *Elementary Greek*. Grammar and Xenophon; Greek Testament; Scientific Nomenclature; Homer. Two hours a week.

5. *Latin*. Cicero's Tusculan Disputations; Pliny; Latin Poetry. Two hours a week (either or both half-years).

6. *Italian*. Grammar and Oral Exercises; Dante. Two hours a week.

#### SENIOR CLASS.

##### REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible, or Greek Testament. One hour a week.

2. *Analytical Mechanics*. Two hours a week.

3. *Anglo-Saxon*. One hour a week the second half-year.

4. *Political Science*. Political Economy; International Law (Lectures). One hour a week the first half-year.

5. *Psychology*. Haven (continued); Mental Physiology (Carpenter); Lectures. Two hours a week the first half-year.

6. *Natural and Revealed Religion.* Butler's Analogy. Two hours a week the first half-year.

7. *Christian Doctrines.* Barclay or Gurney. One hour a week the second half-year.

8. *English.* Philological Study; Milton's *Areopagitica*; Chaucer; Themes and Forensics. One hour a week the second half-year.

9. *History.* Hallam's Constitutional History of England; Guizot's History of Modern Civilization; Adams's Mediæval Civilization; Seeböhm's Protestant Revolution. Two hours a week.

10. *Anatomy, Physiology, and Hygiene.* Two hours a week the second half-year.

11. *Elocution and Composition.* A Public Oration at Commencement.

#### ELECTIVE STUDIES.

(Three studies to be selected.)

1. *Astronomy.* Loomis's Practical Astronomy, with special practice in the observatory. Two hours a week through the year.

2. *Experimental Physics.* Physical Measurements. Twice a week. (Open only to such students as have shown a marked proficiency.)

3. *Chemistry.* Analysis, and other experimental practice. Twice a week.

4. *Civil and Sanitary Engineering.* Mahan, Thurston, Searle, Waring; Field Practice. Two hours a week.

5. *Psychology.* Berkeley; Bowne; Lectures. Two hours a week the second half-year.

6. *Ecclesiastical History.* Smith; Stanley; Lea; Hardwick.

7. *History.* Green's English History; Bryce's Holy Roman Empire; History of United States.

8. *Greek.* Homer (or other authors, in any year of the classical course); History of Greek Literature. Two hours a week.

9. *Latin*. Two hours a week the first half-year.
10. *Hebrew*. Grammar ; Exercises ; Translations from the Old Testament. Two hours a week.
11. *Philology*. Sanskrit ; Whitney ; Peile.
12. *Drawing*. (As a *voluntary* extra study.)

## ENGINEERING COURSE.

### FRESHMAN CLASS.

1. *Scripture*. One hour a week.
2. *Mathematics*. Geometry and Algebra, four hours a week ; Trigonometry and Surveying, three hours a week the second half-year.
3. *Science*. Physics. Three hours a week the first half year. Chemistry. Three hours a week the second half-year.
4. *Languages*. German. Three hours a week.
5. *History and Rhetoric*. Two hours a week.
6. *Practical Mechanics*. Lectures and instruction in the practical use of wood and metal working tools. Five hours a week.
7. *Mechanical Drawing*. Instruction in the principles and execution of machine drawings. Five hours a week the first half-year ; two and one-half hours a week the second half-year.
8. *Free-Hand Drawing*. One hour a week.

### SOPHOMORE CLASS.

1. *Scripture*. One hour a week.
2. *Mathematics*. Advanced Algebra. One hour a week. Analytical Geometry and Calculus. Three hours a week.
3. *Science*. Chemistry ; Qualitative Analysis ; Laboratory Practice. Five hours a week. Physics ; Heat and its applications. Two hours a week.
4. *Languages*. German. Two hours a week. French. Two hours a week.

5. *Ethics and Political Science.* Two hours a week.
6. *Practical Mechanics.* Instruction in machine shop. Five hours a week.
7. *Surveying.* Field Practice. Two and one-half hours a week in spring and fall.
8. *Mechanical Drawing.* Working drawings made from measurements of parts of machines; finished plots of surveys. Five hours a week.

### JUNIOR CLASS.

*NOTE.*—At this point election will be allowed to students of Mechanical or Civil Engineering, and the Course modified accordingly.

1. *Scripture.* One hour a week.
2. *Mathematics.* Analytical Mechanics. Two hours a week.
3. *Science.* Geology; Class room and field work. Two hours a week the first half-year. Physics; Laboratory Practice. Two and one-half hours a week. Chemistry; Laboratory Practice; Analysis of ores, iron, steel, water, boiler scales, etc. Two and one-half hours a week.
4. *Astronomy.* Two hours a week the second half year.
5. *Languages.* Scientific German. Two hours a week. Scientific French. Three hours a week.
6. *Logic and Mental Philosophy.*
7. *Sanitary Engineering.* Lectures.
8. *Mechanical Engineering.* Materials of engineering. Two hours a week.
9. *Civil Engineering.* Theory; Constructions; Field Practice. Two hours a week, or equivalent in field work.
10. *Practical Mechanics.* Machine Work. Two and one-half hours a week.
11. *Mechanical Drawing.* Working drawings from measurements. Five hours a week the second half-year.

## SENIOR CLASS.

NOTE.—The hours are not assigned to all the studies. Sixteen hours a week or equivalents will be required of all students.

1. *Scripture*. One hour a week.
2. *Natural and Revealed Religion*.
3. *Mechanical Engineering*. Rankine's Machinery and Mill Work, Boilers, Fuels, etc.
4. *Sanitary Engineering*. Lectures and discussions.
5. *Mathematics*. Mechanics of Hydraulics.
6. *Mechanical Draughting*. Designs and Working Drawings for Machines.
7. *Civil Engineering*. Rankine's Civil Engineering; Investigation of Existing Structures.
8. *Practical Astronomy*.

## LECTURES.

The Lectures and Courses of Lectures to the whole college for the year 1884-85 were as follows:

- |   |   |                    |
|---|---|--------------------|
| <i>The Functions of the Poet, illustrated from the Poems of Whittier, . . . . .</i> | } | PRESIDENT CHASE.   |
| <i>Lucrezia Borgia, . . . . .</i>   |   |                    |
| <i>Garibaldi, . . . . .</i>   | } | LUIGI MONTI, A.M.  |
| <i>Victor Emmanuel, . . . . .</i>   |   |                    |
| <i>The Dramatis Personæ of Longfellow's Tales of a Wayside Inn, . . . . .</i>       |   |                    |
| <i>International Arbitration, . . . . .</i>   |   | PHILIP C. GARRETT. |
| <i>A Turn in the Tide in the Conflict between Religion and Science, . . . . .</i>   | } | THOMAS KIMBER.     |
| <i>Characteristics of Washington, and their Lessons for Our Times, . . . . .</i>    |   |                    |
| <i>Ireland: The Land and the People, . . . . .</i>                                  | } | JAMES WOOD, A.M.   |
| <i>The History of Monasticism, . . . . .</i>  |   |                    |
| <i>English Abbeys, . . . . .</i>  |   | PROFESSOR THOMAS.  |



*The Industrial Art of Spiders.* }  
*The Maternal Instinct in Spi-* } DR. HENRY C. MCCOOK.  
*ders, . . . . .* }

## CONVERSATION CLASSES.

Evening Conversation Classes are held, for practice in speaking German.

## EXAMINATIONS.

In determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are written examinations of each class in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher class, or receive, finally, the degree of Bachelor of Arts, Science, or Engineering. These examinations are calculated to test as accurately as possible the scholarly habits of the students, and the attainments which they have made.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. But no student is entitled to such advancement, whatever his numbers or rank, unless, in the judgment of his instructors and caretakers, he has been faithful in his daily studies and satisfactory in his character and conduct.

The *viva voce* examinations are made in the daily recitations. Marks are given for each recitation attended; but special examinations are frequently used as an element in determining them. The average of these marks is combined with the average obtained in the semi-annual examinations, to find a student's rank.

## ADVANCED DEGREES.

BACHELORS OF ARTS, BACHELORS OF SCIENCE, and BACHELORS OF ENGINEERING of three years' standing may take respectively the degrees of MASTER OF ARTS, MASTER OF SCIENCE, or MECHANICAL or CIVIL ENGINEER on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an examination on some literary or scientific course of study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate courses of study to be presented by candidates for the second degree: particulars can be had on application to the Dean.

I. The whole of the New Testament in Greek, with Winer's or Buttmann's *N. T. Grammar*, Grimm's *Lexicon*, and Scrivener's *Introduction*.

II. The whole of Thucydides, together with Grote and Curtius on the Peloponnesian War; Greek composition.

III. Twelve Tragedies of Æschylus, Sophocles, or Euripides; Greek composition.

IV. Cicero's *Tusculan Disputations* (five books), *De Natura Deorum*, and *De Officiis*, together with the *History of Ancient Philosophy*; Latin composition.

V. The whole of Tacitus, together with Merivale; Pliny's *Letters*; Latin composition.

VI. Gervinus's *History of Modern Europe*, or Schiller's *History of the Thirty Years' War and Wallenstein* (all the parts), in the original German; together with a thorough examination in the nicer points of German Grammar and composition, and in translation at sight, both from German (not before read) into English, and from English into German.

VII. The *Nicomachean Ethics* of Aristotle (in the original); Jouffroy's *Introduction to Ethics*, and Whewell's and Porter's *Ethics*.

VIII. Greek Literature, with translations at sight from any of the leading authors, and a short original essay in Greek on some topic connected with this subject.

IX. Latin Literature, with translations at sight from any of the leading authors, and an original essay in Latin.

X. Thermodynamics.

XI. Theoretical Astronomy (Watson and Gauss).

XII. Practical Astronomy (Doolittle and Chauvenet).

XIII. Rankine's Applied Mechanics, or Rankine's Civil Engineering.

XIV. English History; Political, Constitutional, Literary.

XV. American History; Political, Constitutional, Literary.

XVI. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Benfey, Fick, Leo Meyer, Pezzi). Some knowledge of Sanskrit will be expected of candidates in this course.

XVII. Modern Languages. Courses similar to VI, VIII, and IX may be offered in any modern language other than English. A high degree of proficiency will be required.

XVIII. Gothic; Old High German; Anglo-Saxon; Early English.

XIX. English Literature and Composition. (In addition to general knowledge of the whole field, an intimate acquaintance with the authors of some characteristic epoch will be required, and a good English style, manifested in original essays.)

XX. Ecclesiastical History. (If a period of early church history be selected, an adequate knowledge of Greek and Latin will be required.)

Candidates who are examined may also, if they desire, hand in Dissertations on topics in their field of study which they have specially investigated.

Resident Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree before the expiration of three years, if the Faculty deem it proper.

Masters of Arts and Science may be examined for the degrees of DOCTOR OF PHILOSOPHY and DOCTOR OF SCIENCE; but such degrees will be conferred only after satisfactory proof of the faithful and successful prosecution of courses of study fully equal in extent and quality to those required for similar honors in the best Universities.

Notice of application for examination must be given to the Dean two months before Commencement. The ex-

aminations will be held the last week in the Fifth month, and no later. The fee for the Diploma of the Second Degree is Twenty Dollars, of subsequent degrees, Thirty Dollars, to be paid to the Dean in all cases before the 10th of the Sixth month.

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## Alumni Prize

### For Composition and Oratory.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE of a Gold Medal, or of a Bronze Medal and Books of equal value, for excellence in Composition and Oratory.

The prize was awarded last year to WILLIAM SAMUEL HILLES, of the class of 1885, for his Oration on "Edgar Allen Poe."

The following are the Rules governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall, on the evening of the last Sixth day in the Fifth month, hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the prize, if the elocution and the literary merits of the orations fall below a suitable standard of excellence.

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LIBRARY.

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LIBRARIAN, Professor Edwin Davenport; Jesse E. Philips, *Assistant*. COMMITTEE in charge of the Library, Richard Wood, *Chairman*; Philip C. Garrett, Charles Roberts, Howard Comfort, Francis Stokes, James Wood.

The number of bound volumes in the Library Hall, accessible to the members of the College, is 15,530. Of these the LIBRARY OF HAVERFORD COLLEGE contains 10,830 volumes; that of the LOGANIAN SOCIETY, 2550; those of other societies, 2150. Numerous American and European periodicals, scientific and literary, are taken in by the Library.

The income of a fund of ten thousand dollars is devoted annually to the increase of the Library.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves may be freely consulted. The Librarian devotes stated hours each week to the purpose of assisting and directing students in their reading, and in the skilful use of books of reference and consultation of authorities. He also arranges courses of reading.

A CARD CATALOGUE of the College and the Society Libraries shows at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

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MUSEUM.

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CURATOR, Professor Thomas Newlin. COMMITTEE in charge of the Museum, Charles Roberts, *Chairman*; David Scull, Jr., Howard Comfort, William Penn Evans, Elliston P. Morris.

The MINERALOGICAL CABINET contains over 3000 specimens, and the GEOLOGICAL about 2500. There are also collections of FOSSILS and SHELLS; a valuable collection

of BIRDS and BIRDS' EGGS; a set of Auzoux's CLASTIC MODELS; and a number of Ward's CASTS of fossil species.

A number of MICROSCOPES for class use in Biology have recently been presented to this department.

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## THE LABORATORIES.

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DIRECTOR, Prof. Lyman B. Hall.

EXTENSIVE APPARATUS is furnished for the illustration of Physics and Chemistry.

THE CHEMICAL LABORATORY has separate working tables for thirty-eight students, and includes resources for practical work of various kinds.

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## THE GYMNASIUM.

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DIRECTOR, Dr. W. A. Ford.

THE GYMNASIUM was refitted early in 1881 with the apparatus of Dr. D. A. Sargent, Director of the Hemenway Gymnasium of Harvard University. A competent teacher, a graduate of Jefferson Medical College and a pupil of Dr. Sargent, has direction of it, and gives systematic instruction, based upon careful personal examination, to each student desiring such aid. Regular work in the Gymnasium is required of all members of the Sophomore and Freshmen Classes.

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## ASTRONOMICAL OBSERVATORY.

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DIRECTOR, Prof. Isaac Sharpless. ASSISTANT, Jos. L. Markley.

THE HAVERFORD OBSERVATORY affords the students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two Equatorial Telescopes, one by Clark, having an object-glass 10 inches in diameter, and one with an object glass of  $8\frac{1}{4}$  inches, with filar micrometer, ring micrometer, and eye-pieces; a polarizing eye-piece; a Newtonian Reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Prism Spectroscope; a Meridian Transit Circle, having a Telescope of 4 inches aperture, with a circle at each end of the axis 26 inches in diameter; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 45''$  N.; its longitude, 6 m. 59.4 sec. East from Washington.

A Special Course in Astronomy is offered to Amateurs and Teachers. The requisites for the Course and the fees charged will depend on the work which the applicant desires to perform.

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## DEPARTMENT OF ENGINEERING.

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DIRECTOR, Prof. James Beatty, Jr.

The scope of this department embraces MECHANICAL, CIVIL, and SANITARY ENGINEERING, with instruction in both theory and practice.

THE MACHINE SHOP, is equipped with all the tools necessary for instruction in carpenters' and machinists' work, including hand and machine lathes, shaper, drill press, forge, vises, etc., with a 10 horse-power steam-engine and boiler.

The work in the shop is conducted by means of progressive exercises, combining the principles met with in machine construction.

There are full sets of the instruments necessary for the practical work in civil engineering.

In the latter part of the course the three departments are separated, each taking such work as is especially adapted to its needs.

A course in practical astronomy is included in the civil engineering work.

The students, under the care of the director, will be taken to visit machine shops and engineering constructions in Philadelphia and its vicinity.

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## SOCIETIES.

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THE LOGANIAN SOCIETY was established by the Officers and Students in 1834. The exercises in its meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN." It has in its possession a carefully-selected Library of 2550 volumes, and a cabinet of medals and coins.

THE ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 2150 volumes.

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## SITUATION OF THE COLLEGE.

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The College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST-OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County*, Pa. The buildings are surrounded by grounds of upwards of sixty acres, tastefully laid out, and adorned with well kept lawns and a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base ball, foot-ball, lawn-tennis, and other field games, and a pond for skating.



THE FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; BARCLAY HALL in 1876-77; the NEW OBSERVATORY in 1883; and the MACHINE SHOP was established in 1884. Barclay Hall, a beautiful edifice of granite, 220 by 40 feet, contains the private studies and bed-rooms. It is furnished with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining-room, recitation-rooms, and Museum are in the Founders' Hall, which was remodelled internally in 1878 and 1882.

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## INSTRUCTION AND DISCIPLINE.

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The courses of instruction at Haverford, aiming at thorough and generous training, embrace the standard studies proved by long experience to be the most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent times. The courses are so designed that the Baccalaureate Degrees, whether in Arts or Science, may attest a comprehensive and truly liberal Education.

As the students form one household, Religious Instruction is carefully provided. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last two years of the classical course there are recitations weekly in the Greek Testament. Dymond's Ethics, Paley's Evidences, Butler's Analogy, and Barclay's Apology or Gurney's Essays, form part of the regular course of study, required of all

the students. Loyal to all truth, Haverford College inculcates faithfully the simple and immutable truths of pure religion.

In the discipline of the college, the officers endeavor to promote habits of diligence, order, and regularity. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.

## DEGRESS GRANTED IN 1885.

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At the Commencement in 1885 Degrees were granted in course, to the following graduates :

### BACHELORS OF ARTS.

SAMUEL BETTLE,	MARRIOTT CANBY MORRIS,
ENOS L. DOAN,	AUGUSTUS TABER MURRAY,
WILLIAM TABER FERRIS,	AUGUSTUS HENRY REEVE,
WILLIAM SAMUEL HILLES,	WILLIAM FOSTER REEVE,
WILLIAM TIMOTHY HUSSEY,	ISAAC SUTTON,
ARTHUR WINSLOW JONES,	ELIAS HENLEY WHITE,
RUFUS MATTHEW JONES,	WILLIAM FRED. WICKERSHAM.
JOSEPH LYBRAND MARKLEY.	

### BACHELORS OF SCIENCE.

CHARLES WINTER BAILY,  
 JOHN JAY BLAIR,  
 THEODORE WILLIAM RICHARDS,  
 MATTHEW TERRELL WILSON.

The degree of S.B. was conferred also on

PROF. THOMAS NEWLIN.

### MASTERS OF ARTS.

The degree of MASTER OF ARTS was granted upon examination to

HENRY LONGSTREET TAYLOR (Class of 1878).

GEORGE A. BARTON (Class of 1882).

The degree of MASTER OF ARTS was bestowed *honoris causa* upon

ROBERT HOWLAND CHASE,  
 JULIUS L. TOMLINSON.







CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR

1886-87.

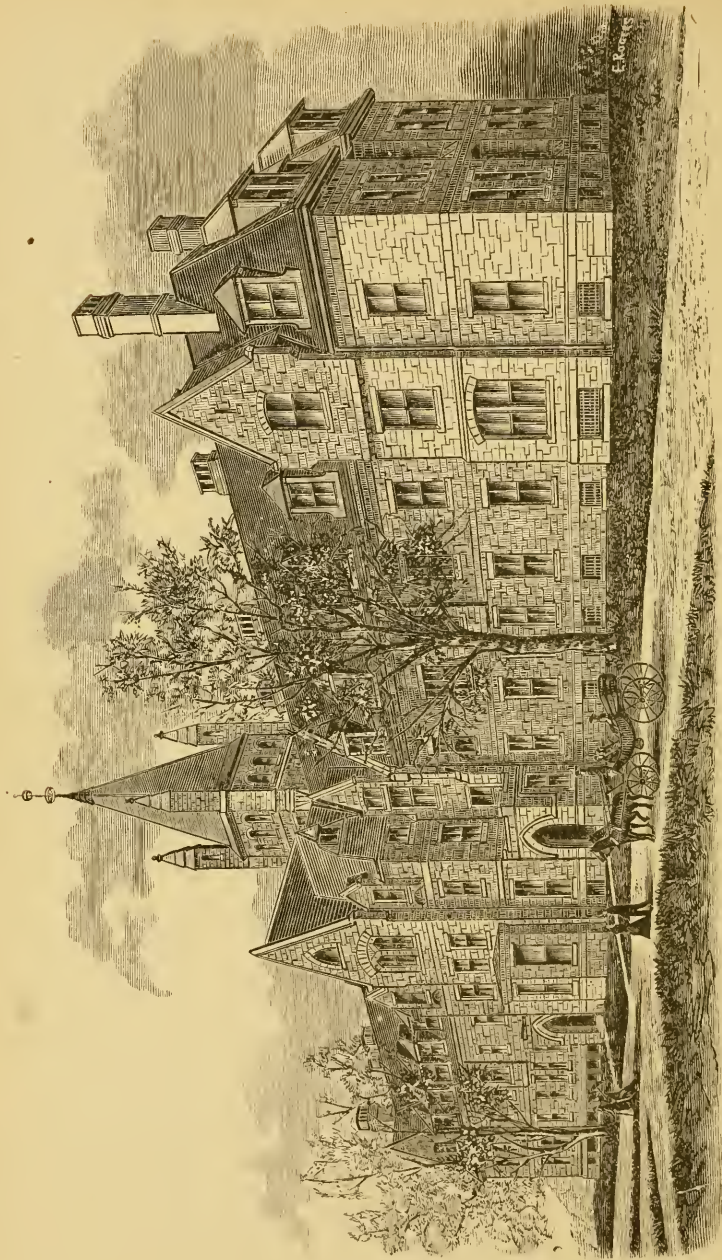


PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1886.









BARCLAY HALL.

CATALOGUE  
OF THE  
OFFICERS AND STUDENTS  
OF  
HAVERFORD COLLEGE,  
FOR THE  
ACADEMICAL YEAR  
1886—87.



PHILADELPHIA:  
SHERMAN & CO., PRINTERS.  
1886.

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## CORPORATION.

*President,*

WISTAR MORRIS,

209 S. Third St., Philadelphia.

*Secretary,*

ELLISTON P. MORRIS,

21 North Seventh St., Philadelphia.

*Treasurer,*

ASA S. WING,

409 Chestnut St., Philadelphia.

### MANAGERS,

WISTAR MORRIS,	JOHN B. GARRETT,
T. WISTAR BROWN,	EDWARD BETTLE, JR.,
JAMES WHITALL,	CHARLES ROBERTS,
JAMES CAREY THOMAS,	FRANCIS WHITE,
PHILIP C. GARRETT,	BENJAMIN H. SHOEMAKER,
RICHARD CADBURY,	HOWARD COMFORT,
DAVID SCULL,	WILLIAM S. TAYLOR,
RICHARD WOOD,	WILLIAM PENN EVANS,
ROBERT B. HAINES,	JUSTUS C. STRAWBRIDGE,
FRANCIS T. KING,	ASA S. WING,
WILLIAM R. THURSTON,	ELLISTON P. MORRIS,
GEORGE HOWLAND, JR.,	FRANCIS STOKES,
CHARLES HARTSHORNE,	JAMES WOOD,
	ABRAM F. HUSTON.

*Secretary of the Board,*

HOWARD COMFORT,

529 Arch St., Philadelphia.

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### *Executive Committee,*

JAMES WHITALL,	CHARLES ROBERTS,
DAVID SCULL,	JOHN B. GARRETT,
EDWARD BETTLE, JR.,	JUSTUS C. STRAWBRIDGE,
RICHARD CADBURY,	HOWARD COMFORT,
PHILIP C. GARRETT,	ASA S. WING.

FACULTY.\*

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†THOMAS CHASE, LTT.D., LL.D., PRESIDENT,  
AND PROFESSOR OF PHILOLOGY AND LITERATURE.

PLINY EARLE CHASE, LL.D., ACTING PRESIDENT,  
AND PROFESSOR OF PHILOSOPHY AND LOGIC.

ISAAC SHARPLESS, SC.D., DEAN,  
AND PROFESSOR OF MATHEMATICS AND ASTRONOMY.

ALLEN CLAPP THOMAS, A.M., LIBRARIAN,  
AND PROFESSOR OF HISTORY, POLITICAL SCIENCE, AND RHETORIC.

LYMAN BEECHER HALL, PH.D.,  
JOHN FARNUM PROFESSOR OF CHEMISTRY AND PHYSICS.

SETH K. GIFFORD, A.M.,  
PROFESSOR OF GREEK AND GERMAN.

WALTER A. FORD, M.D.,  
INSTRUCTOR IN PHYSICAL TRAINING AND DIRECTOR OF THE GYMNASIUM.

JAMES RENDEL HARRIS, M.A.  
PROFESSOR OF BIBLE LANGUAGES AND ECCLESIASTICAL HISTORY.

MYRON R. SANFORD, A.M., REGISTRAR,  
AND PROFESSOR OF LATIN.

LEVI T. EDWARDS, A.B.,  
PROFESSOR OF ENGINEERING.

J. PLAYFAIR McMURRICH, PH.D.,  
PROFESSOR OF BIOLOGY.

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\* Arranged in the order of seniority of appointment.

† Absent for one year in Europe.

SAMUEL LEPOIDS, BACH. ÈS LETTRES,  
INSTRUCTOR IN FRENCH.

HOWARD F. STRATTON,  
INSTRUCTOR IN FREE-HAND DRAWING.

GEORGE H. MAKUEN, A.B.,  
INSTRUCTOR IN ELOCUTION.

JAMES WOOD, A.M.,  
LECTURER ON AMERICAN HISTORY.

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SENIOR CLASS.

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*CLASSICAL SECTION.*

CASSATT, EDWARD BUCHANAN, . .	Haverford Coll., Pa.
FUTRELL, WILLIAM HARRISON, . .	Rich Square, N. C.
GARRETT, ALFRED COPE. . . .	Germantown, Pa.
GODDARD, HENRY HERBERT, . .	Vassalboro, Maine.
HAZARD, WILLIS HATFIELD, . . .	West Chester, Pa.
NEWHALL, BARKER, . . . .	Lynn, Mass.
PHILIPS, JESSE EVANS, JR., . . .	E. Nantmeal, Pa.
STOKES, HENRY WARRINGTON. . .	Germantown, Pa.
STRAWBRIDGE, FREDERIC HEAP, . .	Germantown, Pa.
WHITE, RICHARD JANNEY, . . . .	Baltimore, Md.
WOOD, GEORGE BACON, . . . .	Philadelphia, Pa.
WOOD, WILLIAM CONGDON, . . . .	New York, N. Y.

*SCIENTIFIC SECTION.*

BAILY, ARTHUR HALLAM, . . . .	Spiceland, Ind.
BEDELL, CHARLES HAMPTON, . . .	Poughkeepsie, N. Y.
CLEMENT, ALLEN BALLINGER, . . .	Camden, N. J.
LESLEY, HUGH, . . . .	Philadelphia, Pa.
TRIMBLE, WILLIAM WEBSTER, . . .	Harrisville, Ohio.

*ENGINEERING SECTION.*

EVANS, HORACE YOUNG, JR., . . .	Philadelphia, Pa.
MORRIS, P. HOLLINGSWORTH, . . .	Philadelphia, Pa.

## JUNIOR CLASS.

### CLASSICAL SECTION.

COX, E. MORRIS, . . . . .	McPherson, Cal.
ENGLAND, HOWELL STROUD, . . .	Wilmington, Del.
ORBISON, THOMAS, J, . . . . .	Bellefonte, Pa.
NIELDS, J. PERCY, . . . . .	Wilmington, Del.
POPE, EDWARD MORRILL, . . . .	Cleveland, Ohio.
SLOCUM, ALLISON W., . . . . .	Dartmouth, Mass.
STUBBS, MARTIN BELL, . . . . .	Philadelphia, Pa.
WOOD, CHARLES RANDOLPH, . . .	Philadelphia, Pa.

### SCIENTIFIC SECTION.

BATTEY, CHARLES HEATON, . . . .	Providence, R. I.
COLLINS, FREDERIC, JR., . . . .	Philadelphia, Pa.
CORBIT, JOHN COWGILL, JR., . . .	Odessa, Del.
LEEDS, MORRIS EVANS, . . . . .	Philadelphia, Pa.
GUMMERE, HENRY VOLKMAR, . . . .	Philadelphia, Pa.
HARTSHORNE, FRANCIS COPE, . . .	Merion, Pa.
HILLES, JOSEPH TATUM, . . . . .	Wilmington, Del.
LEWIS, WILLIAM DRAFER, . . . . .	Philadelphia, Pa.
ROBERTS, GEORGE BRINTON, . . . .	Bala, Pa.
SHARP, JOSEPH WEBSTER, JR., . . .	Berwyn, Pa.

### ENGINEERING SECTION.

BEIDELMAN, LAWRENCE PETERSON, .	Little Rock, Ark.
JOHNSON, JOSEPH ESREY, . . . . .	Longdale, Va.
MORRIS, FREDERICK WISTAR, JR., .	Philadelphia, Pa.
MORRIS, RICHARD JONES, . . . . .	Philadelphia, Pa.

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JANNEY, RICHARD MOTT, . . . . .	Churchville, Md.
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## SOPHOMORE CLASS.

### CLASSICAL SECTION.

BANES, ROBERT COLEMAN, . . .	Philadelphia, Pa.
BRANSON, THOMAS FRANKLIN, . .	Moorestown, N. J.
BURR, CHARLES H., JR., . . .	Philadelphia, Pa.
EVANS, THOMAS, . . . . .	Germantown, Pa.
FITE, WARNER HUTCHINSON, . .	Philadelphia, Pa.
KIRKBRIDE, FRANKLIN BUTLER, .	Philadelphia, Pa.
LEWIS, DANIEL CLARK, . . . .	Susp. Bridge, N. Y.
MORRIS, LAWRENCE JOHNSON, . .	Philadelphia, Pa.
OVERMAN, WILLIAM FRANKLIN, .	Goldsboro, N. C.
PEIRSON, FRANK WARRINGTON, .	Lockport, N. Y.
RAVENEL, SAMUEL PRIOLEAU, JR.,	Charleston, S. C.
READE, WALTER GEORGE, . . .	Philadelphia, Pa.
SMITH, WALTER EMANUEL, . . .	Philadelphia, Pa.
STEVENS, LINDLEY MURRAY, . .	East Farnham, Canada.
STOKES, JOHN STOGDELL, . . .	Moorestown, N. J.
VAIL, FREDERICK NEILSON, . . .	Los Angeles, Cal.
WOOD, GILBERT CONGDON, . . .	New York, N. Y.

### SCIENTIFIC AND ENGINEERING SECTION.

BOND, FRANK EDWARD, JR., . .	Germantown, Pa.
CAUSEY, TRUSTEN POLK, . . .	Milford, Del.
DUNTON, WILLIAM RUSH, . . .	Germantown, Pa.
EVANS, WILLIAM HENRY, . . .	Col. Springs, Col.
FIRTH, HENRY HEBERTON, . . .	Germantown, Pa.
GOODWIN, WARREN C., . . .	Greenwich, N. J.
GRISCOM, RODMAN ELLISON, . .	Haverford Coll., Pa.
MORRIS, HERBERT, . . . . .	Germantown, Pa.
REINHARDT, DAVID JONES, . . .	Marlboro, Pa.
SMITH, WILSON LONGSTRETH, . .	Germantown, Pa.
THOMPSON, FRANK EARLE, . . .	Little Rock, Ark.
VEEDER, HERMAN GREIG, . . .	Allegheny, Pa.

## FRESHMAN CLASS.

### *CLASSICAL SECTION.*

ANGELL, EDWARD M., . . . .	S. Glens Falls, N. Y.
AUCHINCLOSS, JAMES STUART, . . .	Bryn Mawr, Pa.
DAVIES, GUY HULETT, . . . .	Towanda, Pa.
FOX, ROBERT EASTBURN, . . . .	Bryn Mawr, Pa.
KIRKBRIDE, THOMAS STORY, . . . .	Philadelphia, Pa.

### *SCIENTIFIC AND ENGINEERING SECTION.*

BUTLER, GEORGE THOMAS, . . . .	West Chester, Pa.
COFFIN, THOMAS AMORY, . . . .	Phoenixville, Pa.
DARLINGTON, PERCY SMEDLEY, . . .	West Chester, Pa.
DU BARRY, JOSEPH N., JR., . . . .	Philadelphia, Pa.
GUILFORD, WILLIAM MOORE, JR., . .	Lebanon, Pa.
GUSS, JOHN NOBLE, . . . .	West Chester, Pa.
HALEY, EDWIN JAMES, . . . .	West Chester, Pa.
LEWIS, JOHN FRAZIER TAYLOR, . . .	Broomall, Pa.
SIMPSON, WILLIAM PERCY, . . . .	Overbrook, Pa.
STOTESBURY, WILLIAM ALFRED, . . .	Philadelphia, Pa.
WALTON, ERNEST FOSTER, . . . .	New York, N. Y.

BAILY, HENRY PAUL, . . . .	Philadelphia, Pa.
CONARD, HENRY NORMAN, . . . .	Philadelphia, Pa.
HIPPLE, WILLIAM LEVIS, . . . .	Bryn Mawr, Pa.
JONES, LEWIS, JR., . . . .	Philadelphia, Pa.
SHAW, JAMES GEORGE, JR., . . . .	New Castle, Del.
UHLER, HARVEY THOMAS, . . . .	Philadelphia, Pa.
VALENTINE, JOHN REED, . . . .	Philadelphia, Pa.

## SUMMARY.

Seniors, . . . . .	19
Juniors and Special Student, . .	23
Sophomores, . . . . .	29
Freshmen and Special Students, .	23
	—
Total, . . . . .	94

## CALENDAR.

College Year,* 1886-87, began with the beginning of the Autumn Term, 1886,	9th Mo. 15.
Winter Recess begins . . . .	12th Mo. 23.
Winter Term begins, 1887,* . . . .	1st Mo. 3.
Mid-year Examinations begin . . . .	1st Mo. 26.
Second Half-year begins . . . .	2d Mo. 1.
Oration before the Loganian Society, .	4th Mo. 11.
Junior Exercises, . . . .	4th Mo. 15.
Spring Recess begins . . . .	4th Mo. 15.
Spring Term begins* . . . .	4th Mo. 26.
Public Oration for the Alumni Prize, .	5th Mo. 27.
Public Meeting of the Loganian Society,	6th Mo. 17.
Alumni Meeting, . . . .	6th Mo. 20.
Examinations for Admission, 9.30 A.M. .	6th Mo. 20.
Address to the Graduating Class, . .	6th Mo. 21.
Commencement Day, 1887, . . . .	6th Mo. 21.

## VACATION OF TWELVE WEEKS.

Examinations for Admission, 9.30 A.M.,† .	9th Mo. 13.
College Year, 1887-88, begins* . . .	9th Mo. 14.
Winter Recess begins . . . .	12th Mo. 23.
Winter Term begins, 1888, . . . .	1st Mo. 3.
Second Half-year begins . . . .	2d Mo. 1.
Spring Recess begins . . . .	4th Mo. 14.
Commencement Day, 1888, . . . .	6th Mo. 20.
College Year, 1888-89, begins* . . .	9th Mo. 14.

\* The first recitations are due promptly at *half-past nine o'clock*, at the beginning of each Term. No absences from them are excused, unless clearly unavoidable.

† See also page 15.

## REQUISITES AND TERMS OF ADMISSION.

CANDIDATES for admission to the Freshman Class in the COURSE IN ARTS AND SCIENCE will be examined as to their proficiency in the following requisites:

GREEK.—Grammar, including Prosody to be tested by scanning; three books of the *Anabasis*; two books of the *Iliad*; Jones' Greek Composition, twenty-five Exercises to be written with the accents.

LATIN.—Grammar, including Prosody to be tested by scanning; four books of *Cæsar*; four books of Vergil's *Æneid*; four Orations of Cicero; Latin Composition, Harkness, Parts I and II.

*Note*.—Equivalents will be accepted in Greek and Latin. Stress will be laid on the applicant's ability to read at sight matter not previously studied.

MATHEMATICS.—Arithmetic, including the Metric System; Algebra, through Radicals and Quadratic Equations of one unknown quantity; three books of Geometry.

ENGLISH.—Grammar and Composition; Greek, Roman, and United States History; Political and Physical Geography; a short English Composition, correct in spelling, punctuation, and expression, will be required. In 1887 the subject will be drawn from Milton's *Samson Agonistes*; Macaulay's *Essay on Milton*; Hawthorne's *Our Old Home*; and in 1888 from Milton's *Comus*; Tennyson's *Elaine*; Irving's *Sketch Book*.

MODERN LANGUAGES.—In place of the Greek the candidate may offer *both* German and French as follows:—

**GERMAN.**—A thorough knowledge of the Grammar; Ability to read at sight ordinary prose or poetry. The minimum amount to be read may be indicated by Whitney's German Reader, Boisen's German Prose, Schiller's "Wilhelm Tell," Goethe's "Iphigenie auf Tauris."

**FRENCH.**—A thorough knowledge of the Grammar; Ability to read at sight ordinary prose or poetry. Char-denal's First and Second French Courses will indicate a sufficient amount.

Candidates for admission to the Freshman Class in the SCIENTIFIC OR ENGINEERING COURSE will be examined as follows:

LATIN.—As above.

MATHEMATICS.—As above, with the addition of the Theory and Use of Logarithms.

ENGLISH.—As above.

SCIENCE.—The elements of Physics and of Human Physiology.

MODERN LANGUAGES.—*Both* German and French, as outlined above, may be substituted for the Latin of this course.

The certificates of principals of first-class schools, will be accepted in place of our examinations, so far as they cover the ground. Such teachers must fill up blank forms furnished on application. Certificates of private tutors will not be accepted.

Students not candidates for a degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to advanced Classes, if found on examination fully prepared for admission to the Freshman Class, and also on subsequent examination thoroughly fitted in all the regular studies of the Course up to the point at which they enter.

A rule of the Corporation directs that "the College shall be open for the admission of the sons of Friends, and of others who are willing that their children should be educated in conformity with the principles of our religious Society."

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present also certificates of honorable dismissal in good standing.

No student is admitted for a period less than one year.

APPLICATIONS FOR ADMISSION must be made to the Dean. Entry Blanks will be furnished on application. Rooms are assigned in the order in which these entry-blanks, properly filled up, are received at the Dean's office. Candidates will present themselves at Founders' Hall, for examination by the Faculty, *at 9.30 o'clock on the morning previous to Commencement day, or at 9.30 o'clock on the morning previous to the beginning of the College year.*

The price of Board and Tuition (together with fuel, lights, and all necessary furniture and service), is \$500.00 per annum, payable to the Dean, one-half at the beginning, and one-half at the middle of the College year. The College Laundry charges 75 cents per dozen for washing.

For day-students who dine at the College, the annual charge is \$250.00, and for tuition alone \$150.00.

There is a telegraph office and an Adams Express office at the College Station, and there is a U. S. Money-order office at Bryn Mawr, Montgomery Co., Pa., one mile from the College.

For further information, and for catalogues, address ISAAC SHARPLESS, Dean, Haverford College P. O., Montgomery Co., Pa.

## COURSES OF INSTRUCTION.

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NOTE.—In the Course in Arts and Science Latin is required through three years and Mathematics through two. Should the student present Greek for admission he is required to continue it for two years, and take German and French for one year. Should he present German and French for admission, he is required to continue them for two years and take Greek for one year. All these subjects may be continued as electives. Some election is allowed in the Junior year. The Senior year is largely elective.

In the Scientific Course Latin is required one year (unless the student presents German and French for admission), and Mathematics three years. Particular attention is given to the Modern Languages and the Sciences throughout the course. The number of electives is the same as in the course in Arts and Science.

In the Engineering Course the Freshman year is the same as in the Scientific Course. After this there is divergence, the Engineering students taking more Mathematics, Mechanics, Shop Work, Field Work, and Drawing as required studies.

Instruction in Free-hand Drawing and in Elocution will be given in any year to those desiring it.

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## COURSE IN ARTS AND SCIENCE.

### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
2. *Mathematics*. Sharpless's Geometry; Wells's University Algebra. Four hours a week.
3. *Greek*. (See note below.) Xenophon's Hellenica,



or an equivalent; Herodotus; Homer; Review of Greek Grammar; Translations at sight (Xenophon's Hiero)

4. *Greek Prose Composition.* Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin.* Livy (Chase); The Odes and Epodes of Horace (Chase); Review of Latin Grammar; Translations at sight (Cicero de Senectute and De Amicitia).

6. *Latin Prose Composition.* Bennett. Subjects 5 and 6, four hours a week.

7. *Rhetoric and English Composition.* Principles of Rhetoric (A. S. Hill); Composition.

8. *History.* History of Greece; History of Rome; Greek and Roman Antiquities. Subjects 7 and 8, four hours a week the first half-year.

9. *Zoology. Hygiene. Meteorology. Botany.* Four hours a week the second half-year.

NOTE.—Subjects 10 and 11 will be pursued instead of 3 and 4 by those presenting Modern Languages instead of Greek for admission.

10. *German.* Translations and exercises in writing German.

11. *French.* Translations and conversations. Exercises in writing French.

### SOPHOMORE CLASS.

1. *Scripture.* The New Testament, English and Greek (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

2. *Mathematics.* Wentworth's Plane and Spherical Trigonometry; Surveying, with Field Practice; Peck's Analytical Geometry. Three hours a week.

3. *Greek.* (See note below.) The Iliad and Odyssey of Homer; Plato's Apology and Crito, or Phaedo; The Prometheus of Æschylus; Aristophanes (Rugby edition). Translations at sight (Xenophon's Memorabilia Socratis).

4. *Greek Prose Composition*. Sidgwick. Subjects 3 and 4, three hours a week.

5. *Latin*. Horace, Satires and Epistles; The Germania and Agricola of Tacitus; Selections from Lyric Poets; Translations at sight (Quintus Curtius).

6. *Latin Prose Composition*. Abbott. Subjects 5 and 6, three hours a week the first half-year, two hours the second.

7. *Ethics*. Dymond's Essays on Morality. Two hours a week the first half-year.

8. *English Literature*. Lounsbury's History of the English Language; Lives and Works of English Authors. One hour a week the first half-year.

9. *Rhetoric and English Composition*. Themes.

10. *Political Science*. Cooley's Principles of Constitutional Law; Constitution of the United States. Subjects 9 and 10, three hours a week the second half-year.

11. *Physics*. Three hours a week the first half-year.

12. *Chemistry*. Four hours a week the second half-year.

NOTE.—Subjects 13 and 14 will be pursued instead of 3 and 4 by those presenting Modern Languages instead of Greek for admission to the Freshman Class.

13. *German*. Literature and writing German.

14. *French*. Literature and writing French.

## JUNIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture*. Greek Testament (Westcott and Hort, or Tischendorf's 8th edition). One hour a week.

\*2. *Mathematics*. Analytical Geometry and Calculus. Three hours a week.

\*3. *Greek*. (See 15 below.) Thucydides; The Antigone

\* Election will be allowed between subjects 2 and 3.

of Sophocles; The Medea of Euripides; The Alkestis of Euripides; Extemporalia (writing and translating). Three hours a week.

4. *Latin*. Cicero's Tusculan Disputations and Somnium Scipionis (Chase); Pliny's Letters; Vergil's Bucolics and Georgics, or an equivalent; Terence (at sight); Extemporalia. Two hours a week.

5. *German*. (For those who have not studied the language.) Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts; Translations at sight, and oral exercises. Two hours a week.

6. *French*. (For those who have not studied the language.) Chardenal's First French Course; Translations, Exercises, and Conversations. Two hours a week.

7. *Geology*. Dana's Text-Book, and field work. Two hours a week the first half-year.

8. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Two hours a week the second half-year.

9. *Rhetoric and English Composition*. Themes; Forensics.

10. *Political Science*. Political Economy. Subjects 9 and 10, four hours a week the second half-year.

11. *History*. Mediæval and Modern History.

12. *Logic*. Whately and Hamilton; or Jevons.

13. *Psychology*. Haven's Mental Philosophy. Subjects 12 and 13, two hours a week.

14. *Elocution*. Rehearsals for Public Exercises.

15. *Modern Languages*. Instead of 3, students who have pursued German and French will use text-books in these languages in studying other branches. Election will be allowed between this course and 2.

#### ELECTIVE STUDIES.

(Two hours a week to be selected the first half-year; also the second half-year, in some cases.)

1. *Descriptive Geometry, Shades and Shadows, and Perspective*. Two hours a week the first half-year.

2. *Chemistry*. Qualitative Analysis; Laboratory Prac-

tice. Twice a week the first half-year, counting as two hours of recitation.

3. *Shop-work and Mechanical Drawing.* Twice a week, counting as two hours.

4. *Hebrew.* Grammar; Exercises; Translations from the Old Testament. Two hours a week.

5. *Italian.* Grammar and oral exercises; Dante. Two hours a week.

## SENIOR CLASS.

### REQUIRED STUDIES.

1. *Scripture.* Greek Testament continued. One hour a week.

2. *Political Science.* Political Economy; International Law (Lectures).

3. *English.* Philological Study; Milton's Areopagitica; Chaucer; Themes and Forensics.

4. *History.* Constitutional History of England; Mediæval and Modern History; The Reformation. Subjects 2, 3 and 4, three hours a week.

5. *Psychology.* Mental Physiology (Carpenter); Lectures. Three hours a week the first half-year.

6. *Natural and Revealed Religion.* Butler's Analogy.

7. *Christian Doctrines.* Barclay or Gurney. Subjects 7 and 8. Three hours a week the second half-year.

8. *Elocution and Composition.* A Public Oration at Commencement.

### ELECTIVE STUDIES.

(Nine or ten hours to be selected.)

1. *Analytical Mechanics.* Three hours a week through the year.

2. *Astronomy.* Loomis's Practical Astronomy, with practice in the Observatory. Two hours a week through the year. (Courses 1 and 2 are open only to those who have studied Mathematics in the Junior year.)

3. *Analytical Geometry and Calculus.* Three hours a week.

4. *Civil and Sanitary Engineering.* Mahan; Thurston; Searle; Waring; Field Practice. Three hours a week.

5. *Physics.* Acoustics; Optics; Electricity; Magnetism. Three hours a week.

6. *Chemistry.* Analysis and other Experimental Practice. Twice a week.

7. *Anatomy and Biology.* Laboratory Work. Three times a week.

8. *Classical Philology, and Greek.* Æschines and Demosthenes on the Crown, or an equivalent; Aristotle; Extemporalia; Greek Pastoral and Lyric Poets; Greek Composition; Papillon's Greek and Latin Inflections; Peile's Greek and Latin Etymology, with Curtius, Vaniček, and Corssen for reference; Curtius's and Roby's Grammars for reference; Inscriptions. Three hours a week.

9. *Latin and Classical Literature.* The Captives of Plautus, and Extemporalia; Selections from Juvenal; Cicero's Letters; Selections from Lucretius; The Ancient Pronunciation of Latin; Latin Composition; History of the Literatures of Greece and Rome. Three hours a week.

10. *Anglo-Saxon.* Sweet's Primer and Reader.

11. *German.* Zschokke's *Der Zerbrochene Krug*; Das Wirthshaus zu Cransac; Fouqué's *Undine*, or an equivalent in prose; Schiller's *Wilhelm Tell*; Goethe's *Iphigenie*; Review of the Grammar; Oral and Written Exercises. Three hours a week.

12. *French.* Translation into French and Exercises; Taine's *Essays*; Racine's *Athalie*; Molière or Corneille. Three hours a week.

13. *Italian.* Grammar and Oral Exercises; Dante. Three hours a week.

14. *Hebrew.* Grammar; Exercises; Translations from the Old Testament. Three hours a week.

15. *Philology*; Whitney; Peile. Three hours a week.
  16. *Psychology*. Berkeley; Bowne. Three hours a week.
  17. *History*. History of England; General European History; Selected Epochs; Constitutional and Political History of the United States. Three hours a week.
  18. *Ecclesiastical History*. Three hours a week.
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## SCIENTIFIC COURSE.

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### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.
2. *Mathematics*. Sharpless's Geometry; Wells's University Algebra; Wentworth's Trigonometry. Five hours a week.
3. *Latin*. Livy (Chase); Horace (Chase); Review of Latin Grammar; Translations at sight (Cicero de Senectute and De Amicitia).
4. *Latin Prose Composition* (Bennett). Subjects 3 and 4, four hours a week.
5. *Rhetoric and English Composition*. Principles of Rhetoric (A. S. Hill); Composition.
6. *History*. History of Greece; History of Rome; Greek and Roman Antiquities. Subjects 5 and 6, four hours a week the first half-year.
7. *Zoology, Hygiene, Meteorology, Botany*. Four hours a week the second half-year.
8. *Drawing*. Free-hand and Mechanical. Three hours a week.

## SOPHOMORE CLASS.

1. *Scripture*. The New Testament. One hour a week.
  2. *Mathematics*. Wentworth's Plane and Spherical Trigonometry; Surveying, with Field Practice; Analytical Geometry. Three hours a week.
  3. *French*. Chardenal's First French Course; Translation, Exercises, and Conversation. Two hours a week.
  4. *German*. Whitney's Grammar, Exercises, and Reader; Boisen's Prose Extracts; Translations at sight, and oral exercises. Two hours a week.
  5. *Ethics*. Dymond's Essays on Morality. Two hours a week the first half-year.
  6. *English Literature*. Lounsbury's History of the English Language; Lives and Works of English Authors. One hour a week the first half-year.
  7. *Rhetoric and English Composition*. Themes.
  8. *Political Science*. Cooley's Principles of Constitutional Law; Constitution of the United States. Subjects 7 and 8, three hours a week the second half-year.
  9. *Physics*. Three hours a week the first half-year.
  10. *Chemistry*. Four hours a week the second half-year.
  11. *Natural History*. Advanced Zoology and Biology; Laboratory Work. Three hours a week.
  12. *Drawing*. Mechanical Drawing from Objects, Geometrical Solids, etc.; Isometric and Perspective Drawing. Three hours a week.
- \* \* Latin, Advanced French, or Elementary Greek may be taken if desired.

## JUNIOR CLASS.

## REQUIRED STUDIES.

1. *The Holy Scriptures*. The English Bible; or, the Greek Testament (for students having a sufficient knowledge of Greek). One hour a week.

2. *Mathematics*. Differential and Integral Calculus. Three hours a week.

3. *Geology*. Dana's Text-Book, and field work. Two hours a week the first half-year.

4. *Astronomy*. Newcomb and Holden's Descriptive Astronomy. Two hours a week the second half-year.

5. *German*. Zschokke's *Der Zerbrochene Krug*; *Das Wirthshaus zu Cransac*; Fouqu  's *Undine*, or an equivalent of prose; Schiller's *Wilhelm Tell*; Goethe's *Iphigenie*; Review of the Grammar; Oral and Written Exercises. Two hours a week the first half-year, continued as an elective.

6. *Rhetoric and English Composition*. Themes.

7. *Political Science*. Political Economy; Forensics. Subjects 6 and 7, four hours a week the second half-year.

8. *History*. Medi  val and Modern History.

9. *Logic*. Whately and Hamilton; or, J  vons.

10. *Psychology*. Haven's Mental Philosophy. Subjects 9 and 10, two hours a week.

11. *Physics and Chemistry*. Two hours a week.

12. *Elocution*. Rehearsals for Public Exercises.

#### ELECTIVE STUDIES.

(Four hours to be selected the first half-year.)

1. *Chemistry*. Qualitative and Quantitative Analysis. Twice a week, counting as two hours of recitation.

2. *Mineralogy*. Practical Exercises in Crystallography and Determination of Minerals; Dana's Text-Book. Two hours a week the second half-year.

3. *Biology*. Laboratory Work and Lectures. Twice a week.

4. *French*. Literature and Translation. Translation into French and Exercises. Taine's *Essays*; Racine's *Athalie*; Moli  re or Corneille. Two hours a week.

5. *Elementary Greek*. Grammar and Xenophon; Greek Testament; Scientific Nomenclature; Homer. Two hours a week.



6. *Latin.* Cicero's Tusculan Disputations; Pliny; Latin Poetry. Two hours a week (either or both half-years).

7. *Italian.* Grammar and Oral Exercises; Dante. Two hours a week.

## SENIOR CLASS.

### REQUIRED STUDIES.

1. *The Holy Scriptures.* The English Bible, or Greek Testament. One hour a week,

2. *Political Science.* Political Economy; International Law (Lectures).

3. *English.* Philological Study; Milton's Areopagitica; Chaucer; Themes and Forensics.

4. *History.* Mediæval and Modern History; The Reformation; Constitutional History of England. Subjects 2, 3 and 4, three hours a week.

5. *Psychology.* Mental Physiology (Carpenter); Lectures. Three hours a week the first half-year.

6. *Natural and Revealed Religion.* Butler's Analogy.

7. *Christian Doctrines.* Barclay or Gurney. Subjects 5 and 6, three hours a week the second half-year.

8. *Elocution and Composition.* A Public Oration at Commencement.

### ELECTIVE STUDIES.

(Nine or ten hours to be selected.)

1. *Analytical Mechanics.* Three hours a week.

2. *Astronomy.* Loomis's Practical Astronomy, with special practice in the observatory. Two hours a week through the year.

3. *Experimental Physics.* Physical Measurements. Twice

a week. (Open only to such students as have shown a marked proficiency.)

4. *Chemistry*. Analysis, and other experimental practice. Twice a week.

5. *Civil and Sanitary Engineering*. Mahan, Thurston, Searle, Waring; Field Practice. Three hours a week.

6. *Anatomy and Biology*. Laboratory Work. Three times a week.

7. *Psychology*. Berkeley; Bowne; Lectures. Three hours a week.

8. *Ecclesiastical History*. Three hours a week.

9. *History*. History of England; Selected Epochs; Constitutional and Political History of United States.

10. *Greek*. Homer (or other authors, in any year of the classical course); History of Greek Literature. Two hours a week.

11. *Latin*.

12. *Hebrew*. Grammar; Exercises; Translations from the Old Testament. Three hours a week.

13. *Philology*. Whitney; Peile.

14. *Anglo-Saxon*. Sweet's Primer and Reader.

15. *Drawing*. (As a *voluntary* extra study.)

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## ENGINEERING COURSE.

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### FRESHMAN CLASS.

1. *Scripture*. The Gospel according to John. One hour a week.

2. *Mathematics*. Sharpless's Geometry; Well's University Algebra; Wentworth's Trigonometry. Five hours a week.

3. *Latin*. Livy (Chase); Horace (Chase); Review of

Latin Grammar; Translations at sight (Cicero de Senectute and De Amicitia).

4. *Latin Prose Composition*. Bennett. Subjects 3 and 4, four hours a week.

5. *Rhetoric and English Composition*. Principles of Rhetoric (A. S. Hill); Composition.

6. *History*. History of Greece; History of Rome; Greek and Roman Antiquities; The Chief Historical Epochs. Subjects 5 and 6, four hours a week the first half-year.

7. *Zoology, Hygiene, Meteorology, Botany*. Four hours a week the second half-year.

8. *Drawing*. Free-hand and Mechanical. Three hours a week.

## SOPHOMORE CLASS.

1. *Scripture*. One hour a week.

2. *Mathematics*. Advanced Algebra. One hour a week. Analytical Geometry and Calculus. Three hours a week.

3. *Science*. Chemistry; Qualitative Analysis; Laboratory Practice. Five hours a week. Physics; Heat and its applications. Two hours a week.

4. *Languages*. German. Two hours a week. French. Two hours a week.

5. *Ethics and Political Science*. Two hours a week.

6. *Practical Mechanics*. Instruction in machine shop. Five hours a week.

7. *Surveying*. Field Practice. Two and one-half hours a week in spring and fall.

8. *Mechanical Drawing*. Working drawings made from measurements of parts of machines; finished plots of surveys. Five hours a week.

## JUNIOR CLASS.

*NOTE.*—At this point election will be allowed to students of Mechanical or Civil Engineering, and the Course modified accordingly.

1. *Scripture.* One hour a week.
2. *Mathematics.* Analytical Mechanics. Three hours a week.
3. *Science.* Geology; Class room and field work. Two hours a week the first half-year. Physics; Laboratory Practice. Two and one-half hours a week. Chemistry; Laboratory Practice; Analysis of ores, iron, steel, water, boiler scales, etc. Two and one-half hours a week.
4. *Astronomy.* Two hours a week the second half-year.
5. *Languages.* Scientific German. Two hours a week. Scientific French. Three hours a week.
6. *Logic and Mental Philosophy.*
7. *Sanitary Engineering.* Lectures.
8. *Mechanical Engineering.* Materials of engineering. Two hours a week.
9. *Civil Engineering.* Theory; Constructions; Field Practice. Two hours a week, or equivalent in field work.
10. *Practical Mechanics.* Machine Work. Two and one-half hours a week.
11. *Mechanical Drawing.* Working drawings from measurements. Five hours a week the second half-year.

## SENIOR CLASS.

*NOTE.*—The hours are not assigned to all the studies. Sixteen hours a week or equivalents will be required of all students.

1. *Scripture.* One hour a week.
2. *Natural and Revealed Religion.*
3. *Mechanical Engineering.* Rankine's Machinery and Mill Work, Boilers, Fuels, etc.
4. *Sanitary Engineering.* Lectures and discussions.
5. *Mathematics.* Mechanics of Hydraulics.

6. *Mechanical Draughting.* Designs and Working Drawings for Machines.

7. *Civil Engineering.* Rankine's Civil Engineering; Investigation of Existing Structures.

8. *Practical Astronomy.*

## LECTURES.

The Lectures and Courses of Lectures to the whole college for the year 1885-86 were as follows:

<i>English Literature,</i>	. . . . .	PRESIDENT CHASE.
<i>Value of a Line, and Other Art</i>	} HENRY BLACKBURN.	
<i>Lectures,</i>		
<i>How To Be Strong,</i>	. . . . .	WILLIAM BLAIKIE.
<i>The Mound Builders,</i>	. . . . .	J. P. MACLEAN.
<i>Exhibition of Photographs,</i>	. . . . .	GEORGE B. WOOD.
<i>Friends in Politics,</i>	. . . . .	AUGUSTINE JONES.
<i>Historical Reminiscences,</i>	. . . . .	ELLIS YARNALL.
<i>The Age of Washington,</i>	. . . . .	HAMPTON L. CARSON.

## CONVERSATION CLASSES.

Evening Conversation Classes are held, for practice in speaking German.

## EXAMINATIONS.

In determining the rank of the students, equal weight is given to the *viva voce* and the written examinations.

There are written examinations of each class in the studies of the year, all of which must be passed satisfactorily before a student can be advanced to the next higher

class, or receive, finally, the degree of Bachelor of Arts, Science, or Engineering. These examinations are calculated to test as accurately as possible the scholarly habits of the students, and the attainments which they have made.

A student's answers must be sufficiently meritorious to receive a mark of at least six, on a scale of ten, in the examination upon each book, and an average of six and two-thirds on all the books combined, before he can be advanced to the next higher class, or receive a diploma as a graduate. But no student is entitled to such advancement, whatever his numbers or rank, unless, in the judgment of his instructors and caretakers, he has been faithful in his daily studies and satisfactory in his character and conduct.

The *viva voce* examinations are made in the daily recitations. Marks are given for each recitation attended; but special examinations are frequently used as an element in determining them. The average of these marks is combined with the average obtained in the semi-annual examinations, to find a student's rank.

## ADVANCED DEGREES.

BACHELORS OF ARTS, BACHELORS OF SCIENCE, and BACHELORS OF ENGINEERING of three years' standing may take the degrees of MASTER OF ARTS, MASTER OF SCIENCE, or MECHANICAL or CIVIL ENGINEER on submitting to the Executive Committee satisfactory evidence of continued good moral character, and passing an examination on some literary or scientific course of study, which shall receive the approbation of the Faculty and Managers. As it is designed that these degrees shall represent real and solid attainments in scholarship, the results of the examination are considered by both Boards, who may call in to their assistance Professors of other Colleges, or other gentlemen of acknowledged authority in the subjects involved.

The following are stated as adequate courses of study to be presented by candidates for the second degree : particulars can be had on application to the Dean.

I. The whole of the New Testament in Greek, with Winer's or Buttmann's N. T. Grammar, Grimm's Lexicon, and Scrivener's Introduction.

II. The whole of Thucydides, together with Grote and Curtius on the Peloponnesian War ; Greek composition.

III. Twelve Tragedies of Æschylus, Sophocles, or Euripides ; Greek composition.

IV. Cicero's Tusculan Disputations (five books), De Natura Deorum, and De Officiis, together with the History of Ancient Philosophy ; Latin composition.

V. The whole of Tacitus, together with Merivale ; Pliny's Letters ; Latin composition.

VI. Gervinus's History of Modern Europe, or Schiller's History of the Thirty Years' War and Wallenstein (all the parts), in the original German ; together with a thorough examination in the nicer points of German Grammar and composition, and in translation at sight, both from German (not before read) into English, and from English into German.

VII. The Nicomachean Ethics of Aristotle (in the original) ; Jouffroy's Introduction to Ethics, and Whewell's and Porter's Ethics.

VIII. Greek Literature, with translations at sight from any of the leading authors, and a short original essay in Greek on some topic connected with this subject.

IX. Latin Literature, with translations at sight from any of the leading authors, and an original essay in Latin.

X. Thermodynamics.

XI. Theoretical Astronomy (Watson and Gauss).

XII. Practical Astronomy (Doolittle and Chauvenet).

XIII. Rankine's Applied Mechanics, or Rankine's Civil Engineering.

XIV. English History ; Political, Constitutional, Literary.

XV. American History ; Political, Constitutional, Literary.

XVI. Comparative Philology (Bopp, Max Müller, Whitney, Corssen, Curtius, Schleicher, Benfey, Fick, Leo Meyer, Pezzi). Some knowledge of Sanskrit will be expected of candidates in this course.

XVII. Modern Languages. Courses similar to VI, VIII, and IX may be offered in any modern language other than English. A high degree of proficiency will be required.

XVIII. Gothic ; Old High German ; Anglo-Saxon ; Early English.

XIX. English Literature and Composition. (In addition to general

knowledge of the whole field, an intimate acquaintance with the authors of some characteristic epoch will be required, and a good English style, manifested in original essays.)

XX. Ecclesiastical History. (If a period of early church history be selected, an adequate knowledge of Greek and Latin will be required.)

Candidates who are examined may also, if they desire, hand in Dissertations on topics in the field of study which they have specially investigated.

Resident Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree before the expiration of three years, if the Faculty deem it proper.

Masters of Arts and Science may be examined for the degrees of DOCTOR OF PHILOSOPHY and DOCTOR OF SCIENCE; but such degrees will be conferred only after satisfactory proof of the faithful and successful prosecution of courses of study fully equal in extent and quality to those required for similar honors in the best Universities.

Notice of application for examination must be given to the Dean two months before Commencement. The examinations will be held the last week in the Fifth month, and no later. The fee for the Diploma of the Second Degree is Twenty Dollars, of subsequent degrees, Thirty Dollars, to be paid to the Dean in all cases before the 10th of the Sixth month.

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### Alumni Prize For Composition and Oratory.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE of a Gold Medal, or of a Bronze Medal and Books of equal value, for excellence in Composition and Oratory.

The prize was awarded last year to HENRY HERBERT GODDARD of the class of 1887, for his Oration on "John Quincy Adams."



The following are the Rules governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall, on the evening of the last Sixth day in the Fifth month, hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the prize, if the elocution and the literary merits of the orations fall below a suitable standard of excellence.

## LIBRARY.

LIBRARIAN, Professor Allen C. Thomas ; Jesse E. Philips, *Assistant*. COMMITTEE in charge of the Library, Richard Wood, *Chairman* ; Philip C. Garrett, Charles Roberts, Howard Comfort, Francis Stokes, James Wood.

The number of bound volumes in the Library Hall, accessible to the members of the College, is 16012. Of these the LIBRARY OF HAVERFORD COLLEGE contains 11254 volumes ; that of the LOGANIAN SOCIETY, 2541 ; those of other societies, 2217. Numerous American and European periodicals, scientific and literary, are taken by the Library.

The income of a fund of ten thousand dollars is devoted annually to the increase of the Library.

The Library is open as a reading-room several hours daily, during which the volumes in the alcoves may be freely consulted. The Librarian devotes stated hours each week to the purpose of assisting and directing students in their reading, and in the skilful use of books of reference and consultation of authorities. He also arranges courses of reading.

A CARD CATALOGUE of the College and the Society Libraries shows at once what books, essays, or review articles these Libraries possess on any subject, and where they may be found.

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## MUSEUM.

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CURATOR, Professor J. P. McMurrich. COMMITTEE in charge of the Museum, Charles Roberts, *Chairman*; David Scull, Howard Comfort, William Penn Evans, Elliston P. Morris.

The MINERALOGICAL CABINET contains over 3000 specimens, and the GEOLOGICAL about 2500. There are also collections of FOSSILS and SHELLS; a valuable collection of BIRDS and BIRDS' EGGS; a set of Auzoux's CLASTIC MODELS; and a number of Ward's CASTS of fossil species.

A number of MICROSCOPES for class use in Biology has recently been presented to this department.

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## THE LABORATORIES.

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DIRECTOR, Prof. Lyman B. Hall.

EXTENSIVE APPARATUS is furnished for the illustration of Physics and Chemistry.

THE CHEMICAL LABORATORY has separate working tables for thirty-eight students, and includes resources for practical work of various kinds.

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## THE GYMNASIUM.

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DIRECTOR, Dr. W. A. Ford.

THE GYMNASIUM was refitted early in 1881 with the apparatus of Dr. D. A. Sargent, Director of the Hemenway Gymnasium of Harvard University. A competent teacher,

a graduate of Jefferson Medical College and a pupil of Dr. Sargent, has direction of it, and gives systematic instruction, based upon careful personal examination, to each student desiring such aid. Regular work in the Gymnasium is required of all members of the Sophomore and Freshman Classes.

## ASTRONOMICAL OBSERVATORY.

DIRECTOR, Prof. Isaac Sharpless. ASSISTANT, Prof. L. T. Edwards.

THE HAVERFORD OBSERVATORY affords the students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two Equatorial Telescopes, one by Clark, having an object-glass 10 inches in diameter, and one with an object glass of  $8\frac{1}{4}$  inches, with filar micrometer, ring micrometer, and eye-pieces; a polarizing eye-piece; a Newtonian Reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Prism Spectroscope; a Meridian Transit Circle, having a Telescope of 4 inches aperture, with a circle at each end of the axis 26 inches in diameter; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 45''$  N.; its longitude, 6 m. 59.4 sec. East from Washington.

A Special Course in Astronomy is offered to Amateurs and Teachers. The requisites for the Course and the fees charged will depend on the work which the applicant desires to perform.

## DEPARTMENT OF ENGINEERING.

DIRECTOR, Prof. Levi T. Edwards.

The scope of this department embraces MECHANICAL, CIVIL, and SANITARY ENGINEERING, with instruction in both theory and practice.

THE MACHINE SHOP is equipped with all the tools necessary for instruction in carpenters' and machinists' work, including hand and machine lathes, shaper, drill press, forge, vises, etc., with a 10 horse-power steam-engine and boiler.

The work in the shop is conducted by means of progressive exercises, combining the principles met with in machine construction.

There are full sets of the instruments necessary for the practical work in civil engineering.

In the latter part of the course the three departments are separated, each taking such work as is especially adapted to its needs.

A course in practical astronomy is included in the civil engineering work.

The students, under the care of the director, will be taken to visit machine shops and engineering constructions in Philadelphia and its vicinity.

## SOCIETIES.

THE LOGANIAN SOCIETY was established by the Officers and Students in 1834. The exercises in its meetings are Discussions, Declamations, Original Essays, etc. The Society publishes a manuscript paper or magazine, "THE COLLEGIAN." It has in its possession a carefully-selected Library of 2541 volumes, and a cabinet of medals and coins.

THE ATHENÆUM and EVERETT are literary societies of the students. Their libraries contain 2217 volumes.

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## SITUATION OF THE COLLEGE.

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The College has a remarkably pleasant and healthful location, in the township of Haverford, Delaware County, nine miles west of Philadelphia. It is near HAVERFORD COLLEGE STATION AND POST-OFFICE, on the Pennsylvania Railroad. Address HAVERFORD COLLEGE P. O., *Montgomery County*, Pa. The buildings are surrounded by grounds of upwards of sixty acres, tastefully laid out, and adorned with well-kept lawns and a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base-ball, foot-ball, lawn-tennis, and other field games, and a pond for skating.

THE FOUNDERS' HALL was built in the years 1832-33; the ASTRONOMICAL OBSERVATORY in 1852; the CHEMICAL LABORATORY AND GYMNASIUM in 1853, and enlarged and improved in 1878; the ALUMNI HALL AND LIBRARY in 1863-64; BARCLAY HALL in 1876-77; the NEW OBSERVATORY in 1883; and the MACHINE SHOP was established in 1884. Barclay Hall, a beautiful edifice of granite, 220 by 40 feet, contains the private studies and bed-rooms. It is furnished with everything calculated to make it a healthful, comfortable, and agreeable residence. The dining-room, recitation-rooms, and Museum are in the Founders' Hall, which was remodeled internally in 1878 and 1882.

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## INSTRUCTION AND DISCIPLINE.

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The courses of instruction at Haverford, aiming at thorough and generous training, embrace the standard studies proved by long experience to be the most fruitful in mental culture, and add to them those scientific and practical studies which have risen into prominence in recent

times. The courses are so designed that the Baccalaureate Degrees, whether in Arts or Science, may attest a comprehensive and truly liberal Education.

As the students form one household, Religious Instruction is carefully provided. In addition to the daily readings of the Holy Scriptures, recitations in them are required of each student once a week. By exposition, and presenting collateral information, the instructors endeavor to illustrate and enforce the true meaning of the lessons. In the last three years of the classical course there are recitations weekly in the Greek Testament. Dymond's Ethics, Butler's Analogy, and Barclay's Apology or Gurney's Essays, form part of the regular course of study, required of all the students. Loyal to all truth, Haverford College inculcates faithfully the simple and immutable truths of pure religion.

In the discipline of the college, the officers endeavor to promote habits of diligence, order, and regularity. In maintaining the discipline, private admonition, and appeals to the manliness and good sense of the students, and above all, to their conscientious feeling and Christian principle, are the means most confidently relied upon.

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DEGREES GRANTED IN 1886.

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At the Commencement in 1886 Degrees were granted in course, to the following graduates:

**BACHELORS OF ARTS.**

JONATHAN DICKINSON, JR.,  
ALEXANDER HARVEY SCOTT,  
HORACE EUGENE SMITH,  
EDWARD DORLAND WADSWORTH.

**BACHELORS OF SCIENCE.**

THOMAS WADE BETTS,  
GUY ROCHE JOHNSON,  
WILLIAM STUART MCFARLAND,  
ISRAEL MORRIS, JR.,  
WILLIAM PAUL MORRIS,  
ALFRED MOTT UNDERHILL, JR.,  
WILFRED WALTON WHITE.

**MASTERS OF ARTS.**

The Degree of MASTER OF ARTS was granted upon examination to

ISAAC THORNE JOHNSON (Class of 1881).  
RUFUS MATTHEW JONES (Class of 1885).  
JOSEPH LYBRAND MARKLEY (Class of 1885).

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The degree of DOCTOR OF LAWS was bestowed *honoris causa* upon

EDWARD HICKS MAGILL.











